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THE MISSOURI RIVER REPORT

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MISSOURI BASIN STATES ASSOCIATION

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THE MISSOURI BASIN STATES ASSOCIATION: Working for Basinwide Cooperation

ORGANIZATIONAL BACKGROUND:

The Missouri Basin States Association (MBSA) is a not-for-profit coalition representing each of the basin's three sets of sovereigns: the states, the tribes and the federal government. The states are represented by governor-appointed water policy experts from each of the Missouri Basin states of Missouri, Iowa, Kansas, Nebraska, Minnesota, Wyoming, Colorado, South Dakota, North Dakota, and Montana. The eighteen Indian tribes within the Missouri basin also have a voting representative on MBSA's Board. Seven federal agencies with jurisdiction, management, or trust responsibilities serve as non-voting members of MBSA's Board.

The Association was formed by the basin states governors in 1981 after then President Reagan abolished the old Missouri River Basin Commission.

PURPOSE:

MBSA was organized to "conduct, encourage and participate in activities which promote interstate coordination of water resources management in the Missouri River basin." Through the years, the organization has served as a forum for the basin's water policy leaders to discuss their needs and differences.

The recent round of litigation aimed at the Corps of Engineers' management of the river (the second major lawsuit in as many years) highlights the need to define new ways to resolve conflicts among the basin's water users.

As a result of the current basin water shortage, now entering its fifth year, MBSA has increased its leadership role in resolving basinwide conflicts. Last July, MBSA hired Richard Opper (formerly with the Northern Lights Institute) as its Executive Director to help the organization achieve its objectives of improving communication among the basin's water users and exploring consensus-based approaches to resolving basin-wide conflicts. Some of the activities recently undertaken by the organization are presented below:

CURRENT ACTIVITIES:

BOARD MEETINGS:
The need for face-to-face dialogue among policymakers in the basin has never been greater. Beginning last summer, MBSA reinitiated regular meetings of its Board of Directors. The organization recently expanded its Board to better represent the basin's Native American population. The Board meets at least quarterly, with special meetings occasionally held between quarters. Board meetings are open to the public. Anyone interested in attending the meetings or receiving copies of the minutes should call MBSA's office at (406) 542-6272.

NEWSLETTER:
To help achieve MBSA's objective of promoting education and improving communication among the basin's water users and policymakers, MBSA has begun publication of a newsletter. The MISSOURI RIVER REPORT will be published quarterly for MBSA members and others interested in learning more about issues in the Missouri River Basin. The newsletter will offer feature articles on topical issues; state, tribal and federal reports; legislative updates; and other topics of concern to the basin's water users and policymakers. Anyone wishing to subscribe and/or submit topic ideas or articles should contact MBSA's main office at (406) 542-6272.

LEGISLATION:
Last September, MBSA's Board decided to use its meetings to evaluate and make recommendations on proposed federal legislation affecting the Missouri Basin. Since September, MBSA's Board has reached a consensus opinion on several pieces of legislation. And letters were sent by the organization to the Congressional Delegates from the basin states expressing the organization's views. The decision to increase MBSA's legislative activity will give the states and tribes a better opportunity to provide meaningful input into the legislative process.

PLANNING:
At its recent Board meeting last November, MBSA conducted negotiations on the Corps of Engineers' draft 1991 Annual Operating Plan for the Missouri's main stem reservoirs. MBSA's Board members were not able to agree on an alternative proposal to the Corps' proposed 1991 Annual Operating Plan (AOP). However, the Board did agree on many modifications which were ultimately incorporated by the Corps into the final 1991 AOP.

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MISSOURI BASIN STATES ASSOCIATION (Cont. from Page 1)

Consensus is particularly difficult to achieve when participants are forced to react to proposals developed by outsiders. Therefore, MBSA decided at their November Board meeting to work in partnership with the Corps in the development of future AOP's - beginning with the 1992 Plan. MBSA's decision received the blessing of General Witherspoon, and the organization will begin working with the Corps to develop the 1992 AOP beginning in March, 1991.

In another development, MBSA and the Corps of Engineers have established four technical committees to work with the Corps in the Phase 2 study of the Review of the Master Manual controlling operations of the Missouri main stem reservoirs. The committees will focus on economic concerns, environmental considerations, hydrology/modeling factors, and low flow/water quality issues in the basin.

MISSOURI RIVER COUNCIL: MBSA has begun to flesh out the concept of a Missouri River Council, ultimately authorized by Congress, which would work in partnership with the Corps of Engineers in developing future operating plans for the River. The concept of such a Council was originally proposed by participants of a Missouri River Assembly meeting last June in Bismarck, North Dakota. The meeting was cosponsored by MBSA and the Northern Lights Institute. The participants suggested several "models" for such a Council, and MBSA is currently researching the models they proposed. MBSA's Board is in the process of developing recommendations on the structure, function and purposes of the Council. The Board's recommendations will be presented to participants of a future Missouri River Assembly to be held in the spring of 1991. Anyone interested in finding out more about the upcoming Assembly should call or write MBSA's office in Missoula, Montana.

* * * *

The year 1991 dawned under the shadow of conflict. War in the Middle East and conflicts in the Missouri Basin have added an element of profound concern to all our lives. These developments indicate the necessity of exploring new ways of resolving our differences. Conflicts like these provide a strong motivation for positive change in the way we govern our communities and ourselves. The Missouri Basin States Association is working to ensure that positive results accrue from the current conflicts in the basin. We wish you a peaceful and productive year.

THE "OTHER PURPOSES" OF MISSOURI RIVER WATER USES

by John H. Davidson, Professor, School of Law-University of South Dako

One theme common to western water controversies is the pressure for change in the traditional and accepted patterns of water use. Some of the factors fueling the pressure for change in water uses include urbanization patterns; new standards for the use and protection of water resources; heightened concern for fish, wildlife, aesthetics and recreation; the drying up of public funds for water development; and the changing economic, political and social circumstances of the Western United States. The Missouri River basin states find themselves involved in their own unique battles in the larger struggle over transfers in water use.

PICK-SLOAN PLAN

Until recently, water management on the Missouri River had been accepted as settled. The Pick-Sloan Plan, as with other western water management plans, had been in place for half a century. When the main-stem dams were authorized by Congress, four principle objectives were delineated [this point is the subject of the current lawsuit described in the following article]:

"Until Recently, the emergence of recreation and tourism was a benign development for all the interests on the river."

1) flood control,
2) navigation,
3) irrigation, and
4) hydropower production.

As the years passed, circumstances surrounding use of the impounded waters changed in ways that surely would have surprised Mssrs. Pick and Sloan. Navigation, though it does exist below Sioux City, Iowa, has not achieved the level of economic importance originally forecast. Large-scale irrigation in the upper basin proved to be of doubtful feasibility, and did not materialize. And finally, a significant water-based recreation and tourism industry developed and flourished along the reservoirs, especially Lake Oahe in South Dakota and Lake Sakakawea in North Dakota.

Until recently, the emergence of recreation and tourism was a benign development for all the interests on the river. But the current drought, now likely to enter its fifth year, caused the Corps of Engineers to draw down stored reservoir water in order to support downstream navigation. In the past two years, the Corps has also had to shorten the navigation season due to the severity of the drought. The Corps claims the draw-down is consistent with the intent and purpose of the original Pick-Sloan Plan. But their actions have had a serious effect on the recreation industry which depends upon lots of fish, lush and stable shorelines, and open water. The pattern of changed circumstances (little irrigation development and the emergence of the reservoir-based recreation industry) makes a legal contest over water management decisions inevitable.

Continued on Page 3

ROLE OF THE COURTS

The first salvo was fired last spring (1990) in federal district court by the upper basin states who sought an order enjoining the Corps from dropping the water levels in Lake Oahe below that necessary to assure a successful spawn of Walleye, the sport fish on which Oahe recreation is based. The district court issued the injunction, but it was lifted three days later by the Eighth Circuit Court of Appeals. The argument around which the states staked a position was twofold. First, they claimed that the federal laws governing the Corps' Missouri River operations establish recreation (including fish and wildlife) as a principle management objective. Second, the upper basin states claimed that the Corps, by choosing to ignore the effects of its low water levels on the recreation industry, was in breach of federal laws requiring the Corps to care for recreational interests. The Administrative Procedures Act, as interpreted by the courts, required a court reviewing an agency's (in this case the Corps') decision to ask whether the agency's choice was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."To make this finding, the court must consider whether an agency's decision was based on consideration of the relevant factors and whether there has been a clear error of judgement.

"As the years passed, circumstances ... changed in ways that would have surprised Messrs. Pick and Sloan."

The Eighth Circuit Court in the Lake Oahe case basically deferred to the Corps' decision to release water for navigation at the expense of recreation. The Court found that the decision was within the authority delegated to the Corps by Congress, and that it was a rational decision involving consideration of relevant factors.

THE CORPS' LEGAL OPINION

The Corps recently fired a second shot in the Missouri River basin's struggles to define water use patterns. The Legal Counsel of the Corps, on August 17, 1990, issued a memorandum in response to an inquiry from the General Accounting Office concerning the place of recreation in Missouri River water management decisions. The resulting memorandum is the Corps' legal opinion on this subject, and must therefore be given close attention. It certainly anticipated the next round of litigation (described in a following article).

The Corps' memorandum makes four principal points:

1) The Corps believes it has authority to consider recreation in the management of reservoir levels. But this authority is subordinate to its larger obligation to manage the reservoirs for multiple purposes. Further, the memo emphasizes that the Corps cannot place all reservoir purposes on equal footing. The point to which the memo repeatedly returns is that the economic justification of the reservoirs is primarily based on flood control, navigation, irrigation, and power. The formal cost allocation does not include recreation. Therefore, storage decisions may be made largely to serve purposes other than recreation.

2) The memo offers a narrow interpretation of the O'Mahoney-Milliken Amendment to the Flood Control Act of 1944 which specifies that Missouri River management for navigation by the Corps shall not conflict with any beneficial consumptive use for domestic, municipal, stock water, irrigation, mining, or industrial purposes. The brief consideration given this important statute in the memo concludes only that the amendment protects traditional diversions of water, but does not extend to other instream or non-consumptive uses such as recreation.

3) The Corps equivocates on the question of whether it believes it is authorized to operate its Missouri River main stem reservoirs to benefit interests on the Mississippi River. The memo concludes that "... any proposition to operate the Missouri River main stem reservoirs solely to benefit Mississippi River interests would thus concern an extraordinary circumstance and considerations of extraordinary authority." Upon examination, this sentence can be interpreted to state that in extraordinary circumstances, the Corps claims the authority to manage the Missouri dams solely to benefit Mississippi River interests.

4) The Corps makes the final point that any long-term or permanent change in the currently settled proposes of flood control, navigation, irrigation, and power will require Congressional reauthorization and that before that will happen, there will have to be a consensus among the states, tribes and Corps which can best be manifested in an interstate compact.

CONCLUSION

All of these points require careful examination by the Missouri basin's states and Indian tribes. A memo of the Corps' General Counsel to the General Accounting Office is not binding legal authority within the Corps. Nor does the memo bind the courts which may review the Corps' management decisions. The memo does, however, exhibit the Corps' legal and tactical positions on issues of overriding significance to the basin states. It tells us, for example, that in the absence of legislative solutions to issues, many technical and legal questions may be placed before the federal courts. And the courts will likely defer most of the decisions to the Corps. In this memo, the Corps offers a narrow interpretation of the important O'Mahoney-Milliken Amendment to the Flood Control Act of 1944. The Corps also asserts legal authority to draw the needs of the Mississippi River into account when managing the Missouri system. And finally, the Corps believes that a request for Congressional reallocation is premature until the the states and tribes have negotiated an interstate compact agreement (a process often taking decades) - one which is acceptable to the Corps. These conclusions must now be carefully considered by the basin's legal and policy leaders.

* This article reflects the views of the author and not necessarily the views of the Missouri Basin States Association.

MISSOURI BASIN FACING ANOTHER ROUND OF LITIGATION IN 1991:
Report Prepared by Tim Edman, MBSA Representative from South Dakota

South Dakota, North Dakota and Montana are going back to court to challenge the Corps of Engineers' priority system for the upper basin reservoirs and to clarify their states' rights to the Missouri River. Pleadings name the Corps of Engineers in a declaratory judgement.

The lawsuit contends the Corps is operating the Missouri River's mainstem reservoirs contrary to the Flood Control Act of 1944. In 1990, the upper basin states went to court seeking a temporary restraining order forcing the Corps to maintain steady reservoir levels during the spring fish spawn. The current lawsuit is broader in scope. It requests the courts to declare the rights of the states based on the contemporary needs of the basin. The lawsuit contends the Corps of Engineers' operation of the Missouri River mainstem reservoirs is not consistent with the intent of the Flood Control Act of 1944. The upper basin states argue that the Flood Control Act of 1944 established only two absolute priorities: flood control and upper basin consumptive uses such as irrigation and municipal water supply. The plaintiff states contend the Corps has sufficient authority and flexibility under the Flood Control Act to revise other priorities, such as navigation, fisheries and recreation, in order to provide the greatest economic benefits for the entire basin.

Simply stated, the states argue the Corps has the duty and the flexibility under the law to establish new priorities for the basin as the needs and economics change. They maintain the Corps (rather than the Flood Control Act itself) established its own priorities of water uses without the benefit of law.

The three states also argue if the Corps continues to operate the Missouri to benefit navigation, downstream domestic uses - including drinking water supplies - will be threatened in the winter months. Nearly one-third of the capacity of the hydropower system on the river was lost last year, the suit contends. This forced the basin states to seek coal-fired power as an alternative at a cost of $40 million.

LEGISLATION UPDATE:

COE MITIGATION ACT:
Senator Larry Pressler from South Dakota has introduced a bill to the Senate entitled the "Corps of Engineers Mitigation Act" (S.103). The bill would allow an impacted state or tribe to make a written request to the Secretary of the Army for corrective Missouri River water management action. The legislation requires the Secretary of the Army to make operation changes within 5 days of written request if he determines that the environmental and economic impacts on a state or tribe outweigh any potential adverse impacts arising from the implementation of the preventive or mitigative action requested.

The legislation also authorizes a $100 million general appropriation to be used for mitigating impacts in the Missouri River Basin states when Corps of Engineers water management policy causes damage. Senator Pressler's bill was reported in the January 14, 1991 issue of the Congressional Record.

MISSOURI RIVER COUNCIL BILL:
In the last session of Congress, Representative Byron Dorgan (ND) introduced legislation to establish a council to govern the operation of the Missouri River basin dams. The council would be composed of representatives of the 10 basin states, the Native American tribes, and the Secretary of the Army. The council would share responsibility with the Corps for running the reservoir projects. The council proposed by Representative Dorgan would be a decision-making body rather that an advisory group. Congressman Dorgan's bill was reported in the October 15, 1990 issue of the Congressional Record.

STATE, FEDERAL AND TRIBAL REPORTS:

CORPS OF ENGINEERS:

GENERAL WITHERSPOON REASSIGNED

Developments in the Persian Gulf have resulted in the reassignment of Brig. General Eugene Witherspoon from the Missouri River Division to command the Corps' Middle East/Africa Project Office headquartered in Winchester, Virginia. He has been in Omaha since January, 1990. General Witherspoon served two years in Saudi Arabia during the Corps' multi-billion dollar construction program for the Saudi Ministry of Defense and Aviation. The Corps built many of the facilities used to launch and sustain Operation Desert Storm. Replacing General Witherspoon will be Col. Don Hazen who has commanded the Omaha District for the past two years. Col. Hazen was deputy at the Missouri River Division headquarters prior to moving to the district office.

In other news, the U.S. General Accounting Office released a report on November 7, 1990, concerning Corps operation of the Missouri River main stem dams in 1988. The report indicates that the Corps did not operate the Missouri River to aid Mississippi River navigation and that it does not have the legal authority to do so. [The Mississippi River suffered historic low flows in 1988, crippling the navigation industry on the river.] Copies of the 12 page report can be ordered from the U.S. General Accounting Office, P.O. Box 6016, Gaithersburg, MD 20877 (202) 275-6241. When ordering, please refer to report #RCED-91-3.

President Bush will send his FY92 budget to Congress on February 5, 1991. The Assistant Secretary of the Army for Civil Works and the Chief of Engineers will testify before the House Subcommittee on Energy and

Water Development of the Committee on Appropriations at 10:00 a.m. on February 19, 1991. Public testimony is scheduled for March 19-21 at 10:00 a.m. The Missouri River Division Commander will testify on the budget for the Missouri Basin on the morning of February 21, 1991.

MISSOURI RIVER TRIBES:

The 26 Missouri Basin Indian Tribes have a common interest in the Missouri River because of the Reserved Water Rights retained by the tribes when they entered into treaties with the United States Government. The tribes are awakening to the need to form a united front to protect their Reserved Water Rights. Last year, Tribal leaders participated in a Missouri Basin Tribal Conference in Bismarck, North Dakota. One of the outcomes of the meeting was a request to the Missouri Basin States Association for representation at their meetings. MBSA responded by establishing a voting position on their Board of Directors for a representative of the basin's tribes. The position on MBSA's Board is currently held by Brenda Schilf who is based in Newtown, North Dakota in the Legal Department of the Three Affiliated Tribes on the Ft. Berthold Reservation. Ms. Schilf is currently recruiting tribal experts to participate on Technical Subcommittees to work with the Corps of Engineers on their review of the Master Manual. She is working with the Corps to organize regional tribal meetings to help tribal leaders learn more about the Corps' management of the Missouri River. In addition, she is organizing another Missouri Basin Tribal Conference tentatively scheduled for early 1991. Brenda Schilf may be reached at (701) 627-3621.

MONTANA:

Montana sends information that Yellowstone Park's geysers and hot springs contain high arsenic levels which persist throughout much of the upper Missouri River in the state. Arsenic is a trace metal known for its acute and chronic health effects. It is commanding increasing regulatory attention from the U.S. Environmental Protection Agency (EPA) as well as the Montana Department of Health and Environmental Sciences (DHES). The upper Missouri River water between Three Forks, Montana and Ft. Peck reservoir (also in Montana) contains arsenic concentrations 500 to 2,500 times greater than EPA's 20-nanogram/liter standard. Strict interpretation and enforcement of EPA/DHES regulations could curtail further consumptive uses of water or other activities which would elevate arsenic concentrations in streams. Montana's Department of Natural Resources and Conservation has formed an interagency committee to develop a model to predict the effects on arsenic levels of various land and water management actions.

SOUTH DAKOTA:

(See article on "Litigation.")

WYOMING:

In one of its final acts before adjournment last session, Congress passed a bill adding the Clarks Fork of the Yellowstone River to the National Wild and Scenic River System. The Clarks Fork River originates near Cooke City, Montana, and flows southeasterly through Sunlight Basin north of Cody, Wyoming. A 20.5 mile segment from below the Crandall Bridge to the Shoshone National Forest boundary will be protected as Wild and Scenic. The bill prohibits the condemnation of land and easements without landowner consent. The bill also authorized an appropriation of $500,000 for development purposes and $750,000 for land acquisition.

The legislation states that the designation will not interfere with any future downstream developments. The bill requires the federal government to apply for a quantification of the federal reserved water right with the state of Wyoming. The issue of quantification was the most controversial aspect of the bill. Senator Wallop pushed for a specific flow quantity to be stated in the bill itself. His proposal was opposed by many interest groups which felt it would establish a dangerous precedent for future Wild and Scenic designations. The final compromise language will give the Forest Service time to complete studies to determine the flow amount required to maintain the Wild and Scenic characteristics of the river segment. The Dept. of Agriculture will then apply for a water right through established state water rights procedures, with the priority date being the date of enactment of this legislation.

NEBRASKA:

Nebraska voters have elected a new governor, Ben Nelson. During the election campaign, Nebraska's selection as host for a low-level radioactive waste dump was the primary natural resource or environmental issue discussed.

Significant drought conditions continue to impact streamflows, reservoir levels, and groundwater supplies. Many users are again tightening their belts and hoping for better conditions in the new year.

Heated dispute continues in the Platte Valley. The Nebraska v. Wyoming Supreme Court suit involves Wyoming's proposed Deer Creek Project, diversions for impoundment in Nebraska's Inland Lakes and a significant list of other issues. The federal relicensing of Kingsley Dam by the Federal Energy Regulatory Commission (FERC) pits conservationists against irrigation and hydroelectric interests. Instream Flow needs for whooping cranes and other endangered birds are at the center of the FERC dispute.

Finally, the State Supreme Court on November 30, 1990 handed down a unanimous 47 page opinion affirming approval of the state's first instream flow right. An intensely contested case resulted in a 14 day hearing before Water Resources Director, Mike Jess. Jess partially approved the permit application in December, 1989. The Court's action was one of "first impression" and confirms Jess's approval of the water right in Lone Pine Creek (North Central Nebraska) for rainbow and brown trout habitat.

IOWA:

The Iowa General Assembly began on January 14, 1991. The budget deficit will be the primary topic for the session. Among the proposals for dealing with the deficit are across the board budget cuts, specific cuts to newer programs, and sunset provisions to force reviews of all state programs on a regular basis. New taxes are not considered to be an alternative at this point in the session. The $25 million Resource Enhancement and Protection Program (REAP) is one newer program targeted for possible budget cuts. REAP provides funds for acquisition and development of all types of natural resource areas from parks to

prairies. The program also includes historical and cultural resource elements. The funds are distributed to both state and local agencies.

Leaking underground storage tanks present tremendous problems to the state of Iowa. Thanks to an aggressive statewide program, thousands of leaking tanks have been found. The state provides financial assistance for cleanup and a subsidized insurance program for tanks which have been upgraded. The costs of the state assistance program have exceeded estimates. Small gas station owners, for example, find even the minimum deductible costs for cleanup too expensive. Iowa places a high value on protecting the remaining local merchants in the many small towns across the state. But solutions to the problem of leaking underground storage tanks are expensive, and funds are a commodity in very short supply.

MISSOURI:

"Meeting Missouri's Needs on the Missouri River" was the theme of a constituency meeting held in Jefferson City, Missouri on January 15, 1991. The meeting brought together the various user groups -- public water supply, navigation, power plant cooling, fish and wildlife, recreation, and flood control -- to develop a better sense of community and unity of purpose. In addition to providing a forum for the interchange of ideas among river users, the meeting provided an opportunity for the participants to learn about the Master Manual revision process and the current controversy over the annual operating plan.

Although drought conditions along the lower river have eased, persistent drought in the upper basin has had significant adverse impacts in Missouri. These impacts include interruption of public water supply during ice jams, extensive modification of intake structures and development of wellfields to cope with lower river flows, and insufficient power plant cooling water. Navigation has suffered severe economic losses. The combination of shortened seasons and shallow drafts have reduced tonnage moved on the river by 50%. Prospects remain bleak, with the Annual Operating Plan calling for the 1991 season to be a repeat of the disastrous 1990 season. Shippers using river transportation also faced 20-25% higher freight rates for grain and fertilizer, greatly reducing profit margins for the agricultural community. Nationwide, the Corps of Engineers estimates navigation losses from the 1988 drought at $1 billion.

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MBSA STAFF:
Richard N. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59107 (406) 542-6272-FAX #: (406) 542-7585

MBSA OFFICERS:
CHAIRMAN: Jeff Fassett, Wyoming State Engineer
VICE-CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
SECRETARY: Tracy Mehan, III, Director, Missouri Dept. of Natural Res.
TREASURER: Michael Jess, Director of Water Resources, Nebraska DNR

OTHER STATE DIRECTORS:
Karen Barclay, Director Montana Dept. of Natural Res. and Conservation
Tim Edman, South Dakota Office of the Governor
David Pope, Director of Water Resources, Kansas Board of Agriculture
Jim Brown, State Water Coordinator, Iowa Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Brenda Schilf, Legal Department, Three Affiliated Tribes, Newtown, ND

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Roger Patterson, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S Environmental Protection Agency
Lloyd Waite, U.S. Geological Survey
Jim Davies, Western Area Power Administration

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P.O. Box 9193
Missoula, MT 59807
(406) 542-6272
FAX No. (406) 542-7585

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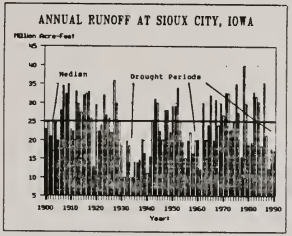
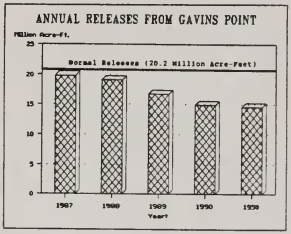
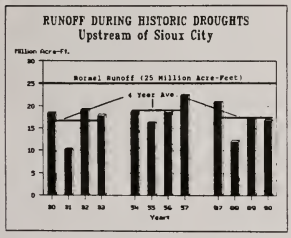
MAY 1991

MISSOURI BASIN DROUGHT ENTERING 5TH YEAR

The Missouri Basin is experiencing its worst drought in three decades. Runoff has been below normal since the spring of 1987, with March runoff only 52% of normal and the 9th lowest in 93 years of record. As shown below, runoff was less in the period from 1987-1990 than during the drought years of 1954-57. The past four years produced runoff levels only slightly higher than the dust bowl period of 1930-1933.







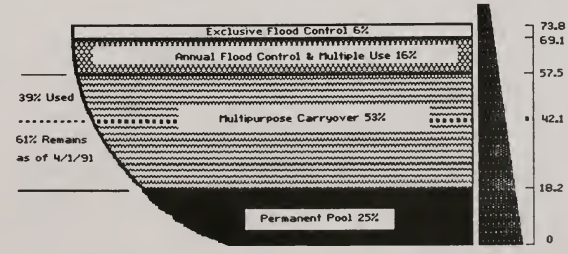
The second graph (ANNUAL RUNOFF AT SIOUX CITY) shows annual runoff for the past 90 years. Note that the drought of the 1930's lasted a decade, twice as long as the drought basin residents are currently enduring. A drought of similar severity and duration as the one in the 1930's would be devastating to the economies and water users of the region.

The reservoir system storage for all six mainstem reservoirs is shown on the figure to the right. On April 1 this year, total system storage was a meager 42.1 million acre-feet. The drop in reservoir levels affects many things, including hydroelectric power which is currently being produced at about 70% of normal capacity. Downstream impacts are reflected by water releases from Gavins Point, which have been declining over the past five years, as shown in the final graph in this report. These releases are currently a little over 70% of normal, reducing the water available to water users in the lower basin.

Snowpack levels have improved since mid-April, fueling hopes of an end to the drought. However, the following points indicate that optimism may be premature:

- The reservoir system storage is at an all time low.
- It will take 6 years of avg. runoff to refill the system to "normal" operating levels.
- Total runoff during the past four years is equivalent to 1-1/4 years less than normal.

Missouri River Main Stem System Storage Allocations



MBSA DIRECTORS MEET IN OMAHA

The Missouri Basin States Association (MBSA) held a quarterly organizational meeting in Omaha, Nebraska on March 22nd and 23rd. Attending the meeting were thirty people representing the Missouri Basin Indian tribes; the states of Missouri, Iowa, Kansas, Nebraska, Wyoming, South Dakota, North Dakota, and Montana; federal agencies including the Corps of Engineers (COE), the Bureau of Reclamation, the Bureau of Indian Affairs, the Environmental Protection Agency, the U.S. Geological Survey, and the Western Area Power Administration; representatives of the transportation industry and several members of the press. This was the first meeting of MBSA's board of directors since November, 1990. The group addressed a full agenda which included Missouri River management, legislative and organizational issues.

Legislation:
Representatives of the Corps of Engineers discussed the President's budget proposal which was presented to Congress earlier in the year. The President's budget included a 46% increase from last year's budget for the Corps' project studies, a 53% increase for project construction, and an 8% increase for project operation and maintenance. These increases in the Corps' study, construction, and operating & maintenance budget fly in the face of the image of a Congress bent on killing any and all water projects. They indicate the potential to secure funding for projects derived from a coordinated basin-wide planning effort from an organization like MBSA.

Missouri River Council:
On March 13, the House Subcommittee on Water Resources held a hearing in Washington, D.C. on the management of the Missouri River. At the heart of the hearing was an amendment proposed last year by Congressman Dorgan (ND) to form a governing council composed of representatives of the 10 Missouri Basin states, the basin's Indian tribes and the Secretary of the Army. The council proposed by Congressman Dorgan would oversee the operating plans for the dams on the Missouri River. It would share responsibility for running the projects with the Corps of Engineers.

MBSA submitted testimony urging the Subcommittee to allow MBSA to complete its own deliberations on a Missouri River Council before recommending legislation.

At its recent meeting in Omaha, the MBSA members considered several organizational alternatives to address Missouri River management issues. Ultimately, the members concluded that MBSA itself provides the appropriate forum in which to address and resolve critical policy issues such as developing long term basin-wide goals, revising the Master Manual, and working with the Corps to develop annual operating plans for the Missouri River.

Two points convinced MBSA members to continue to address issues through the existing organizational structure of MBSA. First, consensus cannot be legislated, and no amount of congressional authority will guarantee agreement among the basin's states and tribes on how to manage the Missouri River. Therefore, establishing a new basin entity - one which in all likelihood would involve the same people serving on MBSA's board - would probably not improve the basin's ability to resolve basin-wide conflicts. Second, our members recognized that consensus among the representatives of the basin's states and tribes will carry a considerable amount of political authority, even if the organization making the recommendation is purely advisory. Decision-makers responsible for managing the River will respond positively to a consensus recommendation, whether or not the suggestion comes from a congressionally-authorized body.

Although it may be necessary at some point in the future to revisit the question of a congressionally-authorized new basin entity, MBSA concluded that the structure and process to promote the needed dialogue among the basin's water users is already in place.

1992 Annual Operating Plan:
Last year, the Corps of Engineers published their draft 1991 Annual Operating Plan (AOP) just prior to a meeting of the MBSA Board. Although the MBSA directors reached agreement on several modifications to the draft, they did not resolve some of the substantive issues relating to reservoir levels and length of navigation season. The MBSA Directors unanimously approved of a resolution to work more closely with the Corps on the next year's AOP. Rather than simply reacting to the Corps' proposals (usually when the window of opportunity for negotiation has already passed), MBSA decided to participate in the development of draft AOP's in future years - beginning with the 1992 Plan. The schedule of MBSA's involvement is as follows:

- Early June (1991) - MBSA appoints a Technical Advisory Group (TAG) to work with the Corps on the 1992 AOP.
- Mid-July - The Corps meets with the TAG to review existing operations of the River, evaluate the existing hydrologic situation in the basin, and generate alternative operating scenarios for the Corps to evaluate.
- End of July - The Corps meets again with the TAG to present the Corps' evaluation of the scenarios and to work with the TAG to develop key recommendations for the draft 1992 AOP.
- Mid-August - The Corps meets with the MBSA Directors to discuss key proposals of the draft 1992 AOP.
- End of August - MBSA submits its recommendations on the draft AOP to the Corps.
- October 1 - The Corps completes and circulates its draft 1992 AOP.
- November 1 - The Corps publishes the final 1992 AOP.

The rest of the meeting was devoted to other MBSA business. The MBSA Directors were also provided a thorough briefing by the Corps of Engineers on the current hydrologic conditions of the basin and an update on the Corps' progress in revising the Master Water Control Manual. Both of these subjects are discussed in this newsletter. MBSA's next meeting has been tentatively scheduled for mid-August.

NEWSCLIPS

MISSOURI RIVER LAWSUIT PUT OFF FOR ANOTHER YEAR...
(From the Rapid City Journal and other publications.)

A federal judge decided that a lawsuit aimed at determining water flows in the Missouri River would not be settled for at least another year. U.S. District Judge Jack Shanstrom ruled a trial to decide the issue would not begin until June 8, 1992. Shanstrom delayed the proceedings at the request of former South Dakota Governor William Janklov, a lawyer representing Montana and the Dakotas in the suit. Janklov said the extra time was needed for the three states to research the history of the Missouri River dams through documents held by the federal government.

In the suit, Montana and the two Dakotas argue that the Corps of Engineers illegally gives higher priority to the water needs of downstream states in the Missouri River basin -- Iowa, Nebraska, Kansas, and Missouri. And it contends the Master Water Control Manual ignores the recreational industry of the reservoirs.

The Corps has argued that the Flood Control Act of 1944 requires it to place emphasis on flood control, irrigation, navigation, and hydroelectric power, rather than recreation. But Montana and the Dakotas contend that the Corps' interpretation is erroneous and that the only priorities of the Act are flood control and the beneficial use of water by all states in the basin. Officials on both sides of the issue say the case is worth potentially millions of dollars.

...BUT NORTH DAKOTA OFFICIAL WANT TRIAL SOONER.
(From the South Dakota Capitol Journal.)

North Dakota Attorney General Nicholas Spaeth says he may try to move up the trial date for the lawsuit over the management of the Missouri River. Spaeth said he was surprised by the June 8, 1992 date for the start of the trial announced by U.S. District Judge Jack Shanstrom. "I may make an effort to try to move the date up. I think the judge just looked at his court calendar and picked the date," he said.

Spaeth agreed with the need for extensive research in the case, but he said he hoped it could be done speedily. He said he and William Janklov [the attorney representing South Dakota who requested the delay in the trial] sometimes take different approaches, but have "a terrific working relationship."

Even with an earlier trial date, Spaeth said that North Dakota could not hope to change the river management this spring. "There's really no opportunity to get it resolved," he said.

Spaeth also said he was disappointed that the states of Iowa and Missouri decided to join the lawsuit on the side of the federal government [in support of the Corps of Engineers]. Kansas and Nebraska are considering similar action.

CLOSING OF CORPS OFFICES STUDIED
(From the Kansas City Star and Corps Officials.)

The U.S. Army is considering cutting costs by realigning the Army Corps of Engineers offices. The Army recommended the Corps reorganization and several Army base closings in the "Report to the Defense Base Closure and Realignment Commission," dated April 1, 1991. Other service branches submitted similar reports in time for U.S. Defense Secretary Dick Cheney to announce dozens of recommended cuts on April 12. The proposals are estimated to save $850 million over five years and $1.7 billion annually after that. A special commission will review Cheney's suggestions and then send a recommendation to President Bush and Congress.

Cheney's April 12 proposal (unlike the report) did not specifically address the Corps of Engineers. He plans to introduce separate legislation on the Corps reorganization because the Corps, unlike the military bases, handles civilian water projects as well as military construction work.

The report has not been released to the public. But it contains lists of Corps district and division offices recommended for closure or integration into other Corps offices. Until such time as the report is released to the public, its recommendations are neither official nor final.

Legislation to enact the report's recommendations is now being prepared by Army officials and will be reviewed by the Department of Defense and the Office of Management and Budget before submission to Congress. No timeline has been announced.

MBSA will update readers of the MISSOURI RIVER REPORT on significant developments on the Corps reorganization.

CORPS OF ENGINEERS:

MASTER MANUAL REVIEW:
Status Report

The Corps of Engineers continues its work on revising the Master Water Control Manual. Their schedule is divided into the following four major categories:

1) Technical Evaluations:

2) Trade-off Analysis and Decision Making

3) Presentation, Review, Revision, and Publication of the Draft EIS.

4) Presentation and Filing of the Final EIS.

At this point in the review, the Corps has focused exclusively on the first category of technical evaluations. The technical evaluations include scoping, data collection, development of analytical tools, and analysis of the alternatives under study.

The scoping work has been completed. It included formal Environmental Impact Statement (EIS) scoping meetings with the public in October, 1990 as well as meetings with technical experts within and outside of the Corps.

Data collection for the EIS is in progress and will continue into early summer. To help the Corps with their data collection and analysis and update the MBSA board on the direction and progress of the Master Manual Review process, MBSA established four technical subcommittees. These committees focus on four specific areas, including Hydrology/Modeling, Low Flow/Water Quality, Economics, and Environmental considerations.

To collect data on riverine aquatics and endangered species habitat, the Corps scheduled special flows from Fort Peck, Garrison and Fort Randall Dams.

The complex task of developing analytical tools for the review and update is currently underway. The Corps, in conjunction with outside technical expertise as well as the MBSA technical committees, is currently developing:

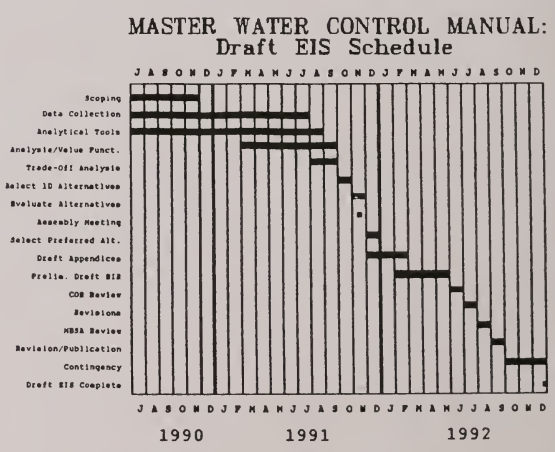
- monthly and daily reservoir regulation models,
- ice effects and water quality models for the river below Gavins Point,
- an interface model to determine the impacts of various alternatives under analysis,
- an input/output model for regional economics.
- a model to relate changes in hydropower generation to the electrical power infrastructure in the region.
- a navigation operational cost model.
- A young-of-year fisheries impacts model.
- a model to economically "optimize" the operation of the system for some or all of the project uses.

The application of these analytical tools is in the initial stages. Essentially, the only models yet functional are the reservoir regulation models. The analyses of the alternative water control plans using the monthly and daily reservoir regulation models is about 80% complete.

Public Input:

The schedule below outlines the Corps' timeframe for completing the draft EIS. MBSA is currently working with the Corps to explore the possibility of sponsoring a public meeting in November, 1991. The meeting is tentatively scheduled to occur after the Corps narrows the list of alternatives being evaluated to 10 and before they select their preferred alternative from the list of 10. The meeting would provide an opportunity for water users throughout the Missouri River Basin to understand the alternatives and how they were selected. In addition, it would allow participants to provide input into the process of selecting the preferred alternative before the Corps selects and presents its tentative choice to the general public. The Missouri Basin States Association will send announcements of the meeting to everyone receiving this newsletter. If you know of others interested in attending the meeting, please send their name and address to:

MBSA
P.O. Box 9193
Missoula, MT 59807


MASTER WATER CONTROL MANUAL:
Draft EIS Schedule
J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Scoping
Data Collection
Analytical Tools
Analysis/Value Funct.
Trade-Off Analysis
Select 10 Alternatives
Evaluate Alternatives
Assembly Meeting
Select Preferred Alt.
Draft Appendices
Prelim. Draft EIS
COE Review
Revisions
MBSA Review
Revision/Publication
Contingency
Draft EIS Complete
J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1990
1991
1992

BUREAU OF RECLAMATION:

Water Supply Update:
Precipitation during March, 1991 was average to much above average for all Bureau of Reclamation (BOR) facilities in Montana and below average to much below average in the Bighorn, Wind, Belle Fourche, and Cheyenne River basins in Wyoming. With the exception of the Clark Canyon Reservoir on the Beaverhead River in southwestern Montana, and Bighorn Reservoir below Yellowtail Dam on south central Montana, all BOR projects in the state have near or above normal storage content. Clark Canyon, which provides storage for BOR's East Bench Unit, has the second lowest end-of-March storage since the reservoir filled in 1965. With mountain snowpack much below average, the water supply outlook for water users in the Beaverhead Basin does not look good. Bighorn Reservoir is at 87% of average for this time of year.

On the Wind River, allocation of Indian reserved water rights for instream flow, coupled with low water supply conditions, may mean irrigators will receive less than a full water supply this year from Bull Lake Reservoir on the Wind River Reservation in Wyoming. Reservoir storage remains below average at most BOR reservoirs on the North Platte River. The system's end-of-year carryover was much below normal. The April-July runoff is projected to be about 58% of normal.

Water Education Activities:
In other Bureau of Reclamation news, the Great Plains Region hosted a water education seminar for teachers in Billings, Montana. The seminar was presented by the staff of Project WET (Water Education for Teachers) which is located at Montana State University in Bozeman, Montana. The BOR has been providing funding for this project for the past three years. The seminar familiarized teachers with materials and products available through Project WET. WET is directed by Dennis Nelson, formerly of the North Dakota State Water Commission. Project WET was developed by Mr. Nelson during his tenure with the State Water Commission.

ENVIRONMENTAL PROTECTION AGENCY:

The Environmental Protection Agency's (EPA) appropriations bill provides for a three year study to assess the influence of rural non-point source pollution in the Kansas/ Nebraska/Iowa region. Funding for the first year is set at $1.25 million. The University of Kansas, the University of Nebraska, and Iowa State University will be the participating organizations.

Initial proposals are to assess the influence of land form and land use practices on the physical, chemical, and biological integrity of stream networks draining watersheds in regions dominated by agriculture. Computerized geographic information system (GIS) technology will be used to examine stream data coupled with land-based information and will focus on small stream networks and watersheds.

MISSOURI RIVER TRIBES:
(Information for this section contributed by the Bureau of Indian Affairs, the Bureau of Reclamation, and Brenda Schilf - MBSA Tribal Representative)

Water Rights Negotiations:
Federal teams have been appointed by the U.S. Department of Interior for water rights negotiations with the Northern Cheyenne, Fort Belknap, and Rocky Boy Reservations. However, the Blackfeet tribe has formally withdrawn from negotiations with the State of Montana. Under Montana state law, the tribe or the federal government must file water claims within six months of termination of negotiations.

Negotiations with the Northern Cheyenne tribe have progressed well. A water rights compact between the state of Montana and the Northern Cheyennes was overwhelmingly approved by the Montana State Legislature. The Northern Cheyenne Tribal Council will vote on the compact in late May. If approved, the compact will be sent to the Secretary of Interior and the U.S. Congress for final ratification.

The compact allows the Department of Interior to allocate to the Northern Cheyenne tribe "for any beneficial purpose" 30,000 acre-feet of water stored in Big Horn Reservoir. In addition, the compact authorizes repairs on the Tongue River Dam and gives the tribe 20,000 acre-feet of water per year in additional storage provided by a four foot increase in the dam height, and 12,500 acre-feet in direct flows from the Tongue River. The tribe's existing right to 7,500 acre-feet of water per year from the Tongue River Reservoir is also guaranteed by the compact. The total water right provided by the compact is 70,000 acre-feet per year. Both reservoirs are on tributaries of the Yellowstone River which flows into the Missouri just east of the Montana-North Dakota border.

Negotiations at the Fort Belknap and Rocky Boys Reservations have been inactive during the Northern Cheyenne talks. Both are expected to renew negotiations in the next few months.

Wind River Issues:
District Court Judge Gary Hartman ruled in mid-March that the Shoshone and Arapahoe tribes have the authority to administer all water (Indian and non-Indian alike) within the boundaries of the Wind River Reservation. The judge said the tribes clearly have the right to use their water to protect instream fisheries if they so choose. According to Hartman "The fact that a tribe changes the use of its reserved right from agriculture to something else does not mean...that the reserved water loses its special status and that the tribe is suddenly subject to the jurisdiction of the state."

On Tuesday, March 26, the state of Wyoming filed its appeal of Judge Hartman's decision. The attorney general's office filed a notice of intent to appeal and asked that the District Court's decision be stayed until a decision is rendered by the higher court. The state was granted its request for a stay.

Mo. Basin Tribal Meeting:

Tribal leaders from Montana and the Dakotas met in Rapid City, South Dakota on April 30, 1991, to discuss a variety of issues affecting the Missouri Basin Tribes.

To begin the meeting, the Corps of Engineers provided an update to the tribes on the Master Water Control Manual review process and current hydrologic conditions in the basin. After the briefing, Robert Roumph from the Omaha District office of the Corps discussed the policy statement he is working on with Brenda Schilf, the Missouri Basin Tribal representative. The policy statement concerns the Corps' relationship to the Missouri Basin tribes, and the Corps' commitment to work closely, fairly and impartially with the tribes on river management policies.

Steve Cates, a Geophysicist/ Hydrologist with the U.S. Geological Survey, gave a presentation on his water data project on the Fort Berthold Reservation. Mr. Cates stressed the need for accurate data to enable the tribes to become better resource managers. Two of the basin's tribes have already chosen to adopt the concept of a standardized water resource inventory. After Mr. Cates' presentation, other tribes expressed an interest in this water management tool.

Brenda Schilf reported that she participated in a conference call with the upper basin states last winter concerning the lawsuit filed by Montana and the Dakotas against the Corps. She said the tribes were asked to consider participating in the lawsuit. After the call, Ms. Schilf faxed a summary of the lawsuit to the basin's tribal leaders, and only two of them responded to her request for input about tribal involvement in the suit. Tribal leaders agreed to review the lawsuit once again and discuss possible tribal responses.

Mr. Dewey Schwalenberg, Dir. of the Native American Fish and Wildlife Society, was the last speaker at the meeting. He emphasized the need for tribes to become unified in order to accomplish things like rehabilitating the environment and obtaining necessary project funding. He also mentioned that the Native American Fish and Wildlife Society had the technical expertise to assist tribes with fish and wildlife management issues on their reservations.

Tribal Compensation:
Last month, Congress began hearings on legislation to provide $240 million in compensation to the Three Affiliated Tribes on the Fort Berthold Reservation and the Standing Rock Sioux Tribe for lands lost when dams were built along the Missouri River. The funds would go into a trust upon which the tribes could draw interest.

MISSOURI:
Governor John Ashcroft

Missouri is planning a second Missouri River Constituency meeting for July 22nd in Jefferson City. The first meeting last January brought together diverse river users for an exchange of information and a briefing on the Master Manual review. The second session will feature updates on the work on the Master Manual, results and implications of the Omaha MBSA meeting, and presentations by government agencies which focus on river management and utilization. Missouri Attorney General William Webster is on the program as the keynote speaker.

There are 19 commercial river terminals and facilities on the Missouri River in the state of Missouri. These ports handle both upriver and downriver cargo, with most of the downriver movement being farm products destined for export down the Mississippi River to deep-water ports on the Gulf.

The Missouri Dept. of Agriculture, with the assistance of the University of Missouri at Columbia, has completed a study of the effects of the inland waterway system on Missouri's $15 billion/year agricultural economy. The report identifies four primary benefits from river transportation for agricultural commodities: 1) more competitive transportation rates; 2) expanded transportation capacity; 3) higher farm-level commodity prices; and 4) lower input costs.

The report concludes that severe curtailment and/or elimination of commercial navigation on the Missouri River, with its consequent reductions in flows on the Mississippi, would impose serious adverse impacts on Missouri's agricultural economy. Specifically, it would result in reduced farm prices and increased fertilizer costs which would reduce agricultural cash receipts and farm income by tens of millions of dollars. The specific figures for economic losses will be presented at the second Missouri River Constituency meeting on July 22nd. For more information about the meeting, contact Jerry Vineyard at (314) 364-1752.

KANSAS:
Governor Joan Finney

Kansas continues to be interested in the Missouri River, particularly for its municipal and industrial water supply potential. The state is working with the Corps of Engineers on the development of a main stem reservoir policy which will insure a reliable water supply for northeast Kansas. Kansas will continue to participate in the Phase 2 study of the Master Water Control Manual as well as the Annual Operating Plan process. In addition, the state is supporting the River Mitigation Project, an project in the Corps of Engineers' budget to restore a portion of the fish and wildlife habitat lost through the channelization work on the Missouri.

Kansas is also exploring the development of a new state park along the river. The proposed park would be located along the Missouri River Bluffs somewhere in Doniphan County. The park project is included in the State Water Plan which is currently undergoing public review. If the proposed park is adopted through the State Water Plan, The Kansas Department of Fish, Wildlife and Parks will include the development of the site in their strategic plan. In addition to the park, Kansas is pursuing other ways to increase access to the Missouri River for recreation.

IOWA:
Governor Terry Branstad

The Iowa General Assembly continues to deal with the difficult task of cutting budgets to meet revenues. An unusual product of the Assembly has been two "deappropriation bills" which actually take back funds from the current fiscal year in order to compensate for lower than expected revenues. Appropriations for the next year are equally difficult given the demands of many programs which receive automatic increases for cost of living or other purposes. As a result, environmental and natural resource protection programs are under increasing scrutiny as they compete with child protection and other services which must receive adequate funding.

Of particular concern to Missouri River interests is a bill which creates a new Missouri River authority. This authority is a planning and implementation body which will focus on the development of the area along the river. The bill has passed both houses - in slightly different form - and may well become law.

NEBRASKA:
Governor Benjamin Nelson

Several water-related bills passed the 1991 session of the Nebraska Legislature and have been signed by Governor Nelson. These bills become law ninety days after the legislature adjourns in June. Some of these bills are described below:

LB 277 allows for an application for a permit to appropriate water from a storage reservoir for instream use for recreation or fish and wildlife. LB 278 requires the applicant for certain uses such as instream flow to bear the expense of providing public notice for hearings before the Department of Water Resources.

This legislative session has generated a great deal of interest in moving forward with decisions about the conjunctive use and integrated management of surface and groundwater. LB 212, which is now in the first stage of debate, places responsibility for preparing the statutory framework with the Natural Resource Committee. A special task force will be appointed and charged with developing legislation for consideration during the 1992 session.

Nebraska's total General Fund financial condition has deteriorated, and the immediate future holds little promise of improvement. For this reason, state agencies are looking at two to four percent budget reductions depending upon whether or not the Governor's or the Appropriation Committee's recommendations are adopted by a majority of the 49 legislative members. The agencies are preparing for the worst, knowing they will have to live with a bare bones budget.

WYOMING:
Governor Mike Sullivan

The 1991 Wyoming Legislature approved a $400,000 appropriation for the State Engineer's office to conduct a detailed study of the Madison Aquifer in the northeastern portion of the state. Many municipalities in northeast Wyoming obtain their municipal supplies from the Madison Aquifer. The aquifer outcrops in both the Black Hills and the Bighorn Mountains, dipping to depths of over 10,000 ft. in the Powder River Basin.

Sand Creek, a popular fishing and vacation site near Beulah, Wyoming on the South Dakota line, is fed by springs from the Madison Formation. Several years of drought have diminished flows of the springs which feed Sand Creek.

Proposed increases in the number of Madison Aquifer wells by Rapid City, South Dakota has also raised concern about the possibility of diminished water supplies for Wyoming users. The monitoring study approved by the Wyoming Legislature will help predict the impacts use of the Madison will have in other portions of the aquifer.

NORTH DAKOTA:
Governor George Sinner

State Engineer and MBSA representative Dave Sprynczynatyk said even though a bill to provide funding for water projects from a sales tax increased failed to pass, the state's 1991 legislative session was a success. He said the bill generated some of the most lively debate of the session and proved there is a lot of support for doing more for water development in the state of North Dakota. Another bill created an advisory committee to begin work towards a water supply system in the northwest part of the state.

On April 26, Governor Sinner signed an Executive Order creating a Water Strategy Task Force. The purpose of the task force is to review funding options to implement existing water policies of the state and to develop a funding strategy to submit to a special session of the North Dakota Legislative Assembly in late 1991. The task force will be chaired by North Dakota Lieutenant Governor, Lloyd Omdahl. State Water Engineer Dave Sprynczynatyk will serve as vice-chairman, and former State Engineer, Vern Fahy, will serve as secretary to the task force. Other members include the State Commissioner of Agriculture, legislators, local officials, the Water Resource District's Association, the Garrison Diversion Conservancy District, the State Wildlife Society, and a Native American representative.

MONTANA:
Governor Stan Stephens:

Two recent studies have documented the degree of economic activity in the Missouri River country of Montana - the eight county area bordering the Missouri River from Ft. Peck Reservoir to the North Dakota border. The first study, conducted by the University of Montana's Institute for Tourism and Recreational Research, focused on expenditures by travelers and the resultant cycling of those dollars through the various sectors of the state's economy. The study found that

MONTANA: (Cont.)

non-resident travel generated expenditures of over $18 million in the eight county area in 1990. This in turn created over 640 jobs with a payroll of over $9 million. Total regional output increased $44 million by virtue of the secondary impacts of this spending cycling through the economy.

Another study, led by Dr. John Duffield, focused on the expenditures made in the eight county area by recreationists and on the economic measure of their willingness to pay for recreational opportunities above and beyond their current cash outlays. The study measured expenditures of $4.58 million along with an additional $5.25 million in net willingness to pay above these costs.

These measures indicate substantial returns from the area's environmental assets. Yet, declining lake levels and the lack of recreational facility development inhibit economic expansion in the area, according to Don Hyppa of the Montana Department of Fish, Wildlife and Parks. He believes that substantial investment and operational modifications are necessary for the region to realize its economic potential.

MBSA STAFF:
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59107 (406) 542-6272-FAX #: (406) 542-7585

MBSA OFFICERS:
CHAIRMAN: Jeff Fassett, Wyoming State Engineer
VICE-CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
SECRETARY: Tracy Mehan, III, Director, Missouri Dept. of Natural Res.
TREASURER: Michael Jess, Director of Water Resources, Nebraska DNR

OTHER STATE DIRECTORS:
Karen Barclay, Director Montana Dept. of Natural Res. and Conservation
Tim Edman, South Dakota Office of the Governor
David Pope, Director of Water Resources, Kansas Board of Agriculture
Jim Brown, State Water Coordinator, Iowa Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Brenda Schilf, Missouri Basin Tribes, Billings, MT

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Roger Patterson, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S Environmental Protection Agency
Lloyd Waite, U.S. Geological Survey
Jim Davies, Western Area Power Administration

MISSOURI BASIN STATES ASSOCIATION
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX NO. (406) 542-7585

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THE MISSOURI RIVER REPORT

THE OFFICIAL PUBLICATION OF THE
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Oct. 1991

MBSA DIRECTORS AGREE ON RIVER OPERATING PLAN

The MBSA Directors met in St. Paul, Minnesota on August 26th and 27th to discuss a variety of issues, including the operating plan for the Missouri River in 1992.

At the request of the MBSA Directors, the Corps of Engineers revised their process for drafting the 1992 Annual Operating Plan (AOP). In previous years, the draft AOP provided the first opportunity for anyone outside the Corps to review and respond to the Corps' recommendations. As drought and other factors heightened concern about the management of the River, the Public's response to the Corps' plans grew increasingly confrontational. Because the public's role was reactive rather than participatory, the process ultimately divided the people it intended to bring together.

This year, the Corps worked closely with the MBSA Directors and technical staff from state agencies and the tribes in developing recommendations for the draft 1992 AOP.

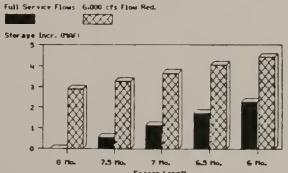
The New Process:
The MBSA Directors appointed an AOP technical committee consisting of representatives from eight basin states and the tribes. The committee met with the Corps' Reservoir Control Center staff in Omaha twice in July. The committee members were updated by the Corps on the current hydrologic conditions of the basin. The committee also learned that four factors affect system water storage, including:

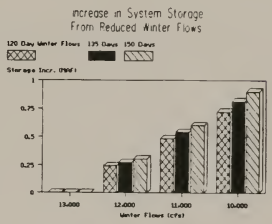
1. The amount of water inflow into the system.
2. The length of the following year's navigation season (a full season is eight months - April 1 through November 30.)
3. Navigation service levels (volume of river flow at specific locations during the navigation season. This determines how large a load navigation vessels can transport on the River).
4. Downstream winter flow (below Gavins Point).

Since the Corps cannot regulate inflows, the AOPs deal primarily with the length of the navigation season, navigation service levels and winter flows - the three areas the technical committee focused on during the July meetings in Omaha. To facilitate discussions, the technical committee asked the Corps to determine impacts on reservoir system storage of:

- Delaying the start of the navigation season, ending the season early, or creating a sag in the middle of the navigation season by reducing summer flows,
- Reducing navigation service levels by various amounts, &
- Reducing winter flow levels.

The following graphs show the impact on system storage of adjusting winter flows, navigation season lengths and service levels:





In summary, a 6,000 cubic foot per second (cfs) reduction in flows during the navigation season saves between 2.1 and 2.9 million acre-feet (MAF) of storage, depending upon the length of the navigation season. At the current lake levels, 1 MAF of additional storage increases levels of each of the three large upstream reservoirs by about 1.4 feet. Therefore, a 6,000 cfs reduction in navigation service levels would raise Ft. Peck, Garrison and Oahe reservoirs by up to 4 feet. A two month reduction in the navigation season would save about 2.3 MAF under full service flows, raising lake levels by a little over 3 feet. Reducing winter flows by 3,000 cfs would save a relatively modest .7 to .9 MAF, depending upon the length of the winter season.

The 1992 AOP Recommendations:
After deliberating the various proposals developed by the MBSA-appointed AOP technical committee and the Corps staff, the MBSA Directors approved a specific operating scenario recommendation for the Corps use in drafting the 1992 AOP. The recommendation calls for the following:

1992 AOP (Cont.)

Winter Flows: Release the lowest winter flows allowable, based on the Corps' experience. MBSA recognizes and supports the Corps' need to retain the flexibility to increase winter flows downstream as needed during periods of icing.

Navigation Service Levels: Follow the existing Master Manual in terms of navigation service levels. Since the Master Manual ties navigation releases to system storage, it is now projected that these flows will be somewhat less than full service under moderately high and median runoff scenarios; minimum service levels under moderately low to extremely low runoff scenarios.

Navigation Season Length: To follow the schedule below:

Annual Runoff Above Sioux City (Million Acre-Feet)	Length of Early 1992 Season Closing
33.2 MAF	-0- (full Season)
30.4 MAF	-0-
25.0 MAF	2 weeks
19.5 MAF	4 weeks
15.9 MAF	5 weeks

MBSA's recommended plan strives to balance the need to recover reservoir storage - depleted in recent years by drought - with the need for downstream flow commitments for a variety of municipal and industrial uses.

According to the September 2, 1991 issue of Green Markets Dealer Report, MBSA's recommendations were "more generous to downstream uses" than the 1991 Annual Operating Plan, and "slightly more water conservation-minded" than plans which strictly followed the Corps' Master Water Control Manual.

Not all of MBSA's Directors voted in favor of the plan. Some of the upstream states felt the plan did not go far enough to help recover system storage. Yet, everyone agreed the new AOP development process was far a vast improvement over pervious methods of drafting recommendations, and that a balance was struck between the conflicting uses of the River.

THE FEDERAL ROLE IN THE MISSOURI BASIN

The Corps of Engineers

The Army Corps of Engineers, the nation's largest engineering organization, has one of the most diverse missions of any federal agency. It is a military agency headed by Army officers, staffed mostly by civilians, under the direction of the Department of Defense, beholden to Congress for funding. The Assistant Secr. of the Army for civil works, a political appointee in the executive branch, oversees the Corps' civil works activities. The top of the Corps' hierarchy in Washington, D.C. is presided over by the Chief of Engineers, an Army General who establishes policies, regulations, and procedures. His office supervises all work of the Corps, prepares planning and construction programs for presentation to Congress, and allocates appropriated funds to the Corps' divisions and districts. Responsibility for execution of Corps projects is vested in the District Engineers.

The Corps' Role in the Missouri
In the Missouri River basin, the Corps has had a division office and at least two district offices since 1933. That was the year the Corps sent to Congress its 308 Report, a study of the Missouri River watershed encompassing navigation, flood control, hydroelectric power, and irrigation. In the 308 Report, the Corps recommended a dam at Fort Peck, Montana, and President Franklin Roosevelt used the report to initiate project construction, without an official review process from the interests affected. The agency completed the massive report without technical committees or task groups from the public or private sectors.

The Corps' role of caring for the nation's waterways was expanded in 1927 when Congress authorized construction of a navigation channel on the Missouri from Kansas City to Sioux City. In 1936, Congress gave the Corps additional flood control responsibilities, and the Flood Control Act of 1938 approved a broad plan for flood control in the Missouri basin.

The Corps amassed more duties in the aftermath of catastrophic floods in 1943. In the 1944 Flood Control Act, Congress adopted a combined Corps and Bureau of Reclamation plan for the Missouri basin providing for the construction of 316 separate units, with 112 dams having a total storage of 107 million acre-feet of water, 4.3 million acres of irrigation, 2.6 million kilowatts of hydroelectric generating capacity, and hundreds of miles of levees and other flood protection structures.

When the projects were built, the Corps established a Reservoir Control Center (RCC) in 1953 within the Missouri River Division to manage the operations of dams and reservoirs.

Annual Operating Plans:
A tool in meeting the project requirements is the Annual Operating Plan (AOP). The Corps seeks advice to develop these plans from system users, federal and state officials. This year, the Corps worked closely with MBSA Association and included tribal concerns to develop recommendations for the 1992 AOP (see lead article).

The people and issues to be consulted and considered has expanded considerably since the main stem Missouri River projects reached normal operating limits in 1967. Recreation and fish and wildlife have a much greater emphasis than anticipated in the 1944 Flood Control Act. Evironmental laws such as the National Environmental Policy Act of 1969 and those protecting endangered and threatened species, add to the concerns which the RCC staff must consider in developing the AOPs and making daily main stem operational decisions.

The Master Manual:
The system was designed to meet needs identified in the early 1940's. It is under pressure from an array of contemporary interests unforseen half a century ago. The Corps' Master Water Control Manual provides guidance for developing AOPs and for making daily operations decisions. However, laws subsequent to the authorizing legislation, such as those designed to protect threatened and endangered species, require special considerations not addressed in the Master Manual.

Corps (Cont.)

The Corps is engaged in an extensive review of its operating guidelines to account for endangered species and other statutory obligations enacted since the Master Manual was first published in 1960 and updated in 1979. MBSA created four technical subcommittees to work with the Corps in the review process. The Corps is also coordinating with a large number of other interests, both private and public sectors, in the complex review process. The subcommittees will complete their review of technical considerations by March, 1992. The Corps will select a "preferred" alternative for updating the Master Manual in May, 1992. The draft Environmental Impact Statement (EIS) will be available for general public comment by January 1993. The Corps will then publish the final EIS and updated Master Manual by December 1993.

The Master Manual review process and this brief overview illustrates how the Corps' civil works role in the Missouri River basin has grown from its beginnings as a military support organization. The differences in the way the Corps produced the massive 308 Report in 1933 and the 1991 Master Manual review are striking. The number of interests to consult and coordinate with has expanded dramatically in 50 years. The Corps' role has grown to embrace an extraordinarily large and complex set of activities and people in the basin.

Bureau of Reclamation

The Bureau of Reclamation's presence in the Missouri River Basin dates to the earliest days of the agency's history. In 1902, President Teddy Roosevelt signed the act which authorized Reclamation's creation. The agency's charge was to reclaim arid lands of the West through irrigation, thereby stimulating settlement and economic development. Several of the irrigation projects authorized in Reclamation's first five years were in the Missouri River Basin, including the North Platte Project in Wyoming and Nebraska, the Shoshone Project in Wyoming, the Huntley, Lower Yellowstone, Milk River and Sun River projects in Montana, and the Belle Fourche Project in South Dakota. All were solely irrigation projects.

As communities began springing up near the irrigation projects, there were new demands for water for uses other than irrigation. In 1939 Congress passed legislation making it possible to include other purposes in Reclamation projects such as hydroelectric power, flood control, recreation, and fish and wildlife protection and enhancement. Multiple purpose planning expanded even more in the early 1940's as the agency began looking at development possibilities for whole basins.

In 1943, Reclamation prepared a report on irrigation potential throughout the Missouri River Basin. At about the same time, the Army Corps of Engineers prepared a survey of flood control and navigation. Congress asked the organizations to combine their approaches, the result of which was the Missouri River Basin Project, one of the most comprehensive basinwide, multiple purpose water management plans ever developed. In 1970, Congress renamed it the Pick-Sloan Program to recognize William G. Sloan of the Bureau of Reclamation and Col. Lewis A. Pick of the Corps of Engineers, the men who had spearheaded the basinwide planning effort.

Reclamation's responsibility in this dual-agency effort was development of irrigation and other uses, including municipal and industrial water, which until then was not even a recognized part of the Reclamation program. While the full irrigation, power and municipal development envisioned by Pick-Sloan has never been realized, much of the basin's water development since the 1940's has been accomplished under Pick-Sloan.

Today there are 42 Reclamation irrigation projects in the basin operated and maintained by local irrigation districts. These projects provide water to over 2 million acres of farmland which in 1989 produced over $700 million worth of crops. The agency operates 18 hydropower projects in the basin with a combined capacity of 768 megawatts. Power is marketed through the Department of Energy. Municipal water from Reclamation facilities in the basin served 600,000 residents of the basin in 1989.

Bureau of Indian Affairs

The Bureau of Indian Affairs (BIA) manages the Federal Government's trust interest in 12.3 million acres of Indian Lands in the Missouri River Basin - about 3.7 percent of the basin's 519,635 total square miles. Indian lands in the basin occur on 23 Indian reservations, other types of holdings such as "reserves" and schools, and lands off Indian reservations. Of the ten states sharing the Missouri River basin, only 3 - Colorado, Minnesota and Missouri - are not listed as having Indian lands within the basin.

Indian water rights in the basin remain largely unquantified, thereby contributing to the lack of development of Indians' water resources. The BIA assesses and protects tribal water rights, and through its Billings Area Office, provides technical assistance and guidance to the basin tribes on water resource development.

To fulfill present and future needs of the permanent homelands of the tribes, a reserved water right for irrigation, stock watering, fisheries, wildlife and aesthetics, mineral and industrial, domestic, commercial, and municipal uses is quantified and claimed. The largest consumptive water claim among these uses is fulfillment for the reservation's agricultural purpose. The judicially established standard to measure

BIA (Cont.)

the reserved water right to fulfill agricultural purpose is practicably irrigable acreage, i.e., those acres susceptible to sustained irrigation at reasonable costs. Litigation-level studies to determine practicably irrigable acreage generally involve four major study areas: 1) semi-detailed land classification, 2) water availability studies, 3) irrigation engineering studies and 4) agricultural economics.

Determination of the quantity, priority, and uses of Indian water rights in the basin commenced in 1977 with Wyoming's lawsuit to adjudicate all water rights in the Big Horn River. In 1983, the Arapahoe and Shoshone tribes of the Wind River Indian Reservation were awarded a "reserved" or Winters Doctrine water right to approximately 500,000 acre-feet per year (a-f/yr) from the Wind River and its tributaries, to satisfy the agricultural purposes of the reservation, with an 1868 priority date. Quantification aspects of the lawsuit were finally resolved in favor of the Shoshone and Arapahoe Tribes in 1989 when the United States Supreme Court, by a divided vote, accepted the Wyoming Supreme Court's review of the Tribes' water right. Litigation costs for quantification and prioritization of the Tribe's reserved water right to the federal government, tribes and Wyoming are estimated to exceed $16,000,000. Issues involving administration of the tribes' reserved water right remain unresolved and in litigation.

Except for the Blackfeet, all Indian tribes in the state of Montana tribes have formally accepted the state's invitation to settle their water right claims through negotiation rather than litigation. The first successful negotiation resulted in the Fort Peck Compact, executed in April, 1985, by Montana, the Sioux and Assiniboine tribes, and Departments of the Interior and Justice. The compact recognizes the tribes' right to divert from the Missouri, the tributaries that flow through or adjacent to the reservation, and ground water, approximately 1,000,000 a-f/yr, with a priority date of May 1, 1888.

In June of this year, the Chairman of the Montana Reserved Water Rights Compact Commission and President of the Northern Cheyenne Tribe executed a compact settling the tribe's water right claims in the Tongue River and Rosebud Creek basins. The tribe and the state had been in active negotiations for over three years.

Of particular benefit to both the state and the tribe are provisions of the compact which provide Federal participation in the rehabilitation and enhancement of the state-owned and operated Tongue River Dam. Another significant aspect of the compact is the Department of the Interior's allocation of 30,000 a-f/yr of stored water in the Big Horn Reservoir for the tribe's use on or off the Northern Cheyenne Reservation.

The Water Resources Branch in the BIA's Billings Area Office develops and prepares fact-finding, assessment and recommendation reports for the Chairmen of Federal negotiating teams, and also provides technical assistance and advice to the teams during water rights negotiations with the tribes. The BIA works with the Department of Justice in preparing to litigate the water right claims on behalf of the Montana tribes if negotiations fail or are terminated.

U.S. Fish & Wildlife Service

Most of the U.S. Fish and Wildlife's responsibilities arise from the precept held in this country that fish and wildlife resources are not privately owned and, therefore, belong to the public. As a result, federal, state and tribal governments are charged with protecting that public value and holding that public value in trust for the good of all the people.

In the federal government, this responsibility has often been delegated to the U.S. Fish and Wildlife Service, in the states to the Game and Fish Departments (or other named agencies authorized to protect wildlife resources within the states), and to the tribal councils on Indian lands. Although occasional jurisdictional questions exist, the Service works closely with these joint responsibility agencies to accomplish the public trust responsibility.

From the federal perspective, the Service must often revisit specific authorizations to determine the extent of responsibilities and the roles that government agencies are to play in protecting the fish and wildlife resources held in public trust.

The Service has 2 National Fish Hatcheries and 8 units of the National Wildlife Refuge System on or along the Missouri River. Each of these was established for specific project purposes, and those purposes differ considerably from one unit to the other. Obviously, the Service has a vested interest in these properties and the associated resources that it is charged to manage. The Service also has oversight responsibilities on some properties and developments along the river that state wildlife agencies have taken interests in. These developments fall within a category called Dingell-Johnson fishery projects and Pitman-Robertson wildlife projects which were built with federal aid. The Service has a responsibility to assure that these projects or their funds are not diverted, either now or in the future, to purposes other than wildlife.

The Service is the recognized biological arm of the federal government, and it has been charged several times by Congress to play the checks-and-balances role in protecting the public's wildlife resources. Its Division of Environment Offices, one of which is located in nearly each of the basin states, are charged with reviewing federal actions and actions approved by federal agencies. To protect wildlife as a government trust responsibility, F&W Law Enforcement personnel also have responsibilities on the Missouri River to enforce Migratory Bird Acts, the Lacey

F & W S (Cont.)

Act (a wildlife violation that moves across a state or reservation boundary becomes a federal offense), the Bald Eagle Act, the Endangered Species Act, and other federal laws. Our Technical Assistance Offices have responsibilities to work with the tribes and military reservations. Considering all these responsibilities, the Service does not have a single role to play in management of the Missouri River but rather a whole series of roles and responsibilities, all of which are mandated by law.

Many people are surprised to learn that most of these responsibilities are not of recent origin. The Lacey Act was passed in 1900. The first first Migratory Bird Treaty Act, which is an international agreement, was signed in 1918. The Fish and Wildlife Coordination Act (FWCA) was originally passed in 1934. Some of the newest laws, which are especially relevant to ongoing deliberations on the Missouri River, are the National Environmental Policy Act (NEPA), passed in 1969, and the Endangered Species Act (ESA) which was passed in 1973. The Service has review responsibilities in the former law and must render biological opinions in the latter. These laws have a great deal of application to the current debates within the Missouri basin over the priorities of use of the River system. The Service is therefore involved in the current review of the Master Water Control Manual for the Missouri River main stem reservoir system.

Western Area Power Administration

Western Area Power Administration is a relatively new Federal agency, created in 1977. When the Department of Energy was created, Western assumed the power marketing and transmission function for hydroelectric projects that serve 15 western states. Western's organization is headquartered in Golden, Colorado. Its five Area Offices are in Billings, Montana; Loveland, Colorado; Phoenix, Arizona; Sacramento, California; and Salt Lake City, Utah.

The Federal power marketing business dates back to the early 1900's, when developing water resources for early settlers was crucial to settlement of the West. The Reclamation Service (now the Bureau of Reclamation) constructed dams, reservoirs and water conveyance facilities. Powerplants constructed at dam sites initially were used to pump irrigation water and to light towns and farms. Surplus power was sold to municipal and rural customers and helped meet local demands for low-cost electricity. The sale of surplus power helped repay the Federal government's investment in the water projects. From these expanding operations grew the need for power marketing that would one day become Western's mission.

In marketing power and energy, Western is governed by several statutory requirements. A couple of the more pertinent regulations are (1) giving preference to rural electric cooperatives, municipalities, public utility districts, irrigation districts and state and Federal agencies for power sales, and (2) collecting adequate revenues from the sale of power and energy not only to pay costs allocated to power, but also to pay other costs such as irrigation aid.

In 1944, Congress authorized the Pick-Sloan Missouri Basin Program (P-SMBP). The multi-purpose program includes electric power generation on the Missouri River and its tributaries in Montana, Wyoming, and Colorado.

Power from P-SMBP is marketed by two of Western's Area Offices - Billings and Loveland. The Billings Area Office markets power for and operates the Eastern Division in North Dakota, South Dakota, western Iowa, western Minnesota, Montana and eastern Nebraska. The Loveland Area Office markets power for and operates the Western Division in Wyoming and Colorado east of the Continental Divide, northern and western Kansas, and western Nebraska.

The Eastern and Western Division systems have common facilities at Yellowtail Dam in Montana and at a point near Stegall, Nebraska. However, they are separate, distinct systems. The two divisions have different generation resources, market separate allocations of firm power and have separate rate structures. Yet both contribute revenue to repay P-SMBP expenses and investments.

The Corps of Engineers and Bureau of Reclamation operate and maintain the powerplants and their associated switchyards. Fort Peck, Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point are Corps of Engineers powerplants having a maximum operating capacity of 2,597,000 kW from 36 separate generating units. Bureau of Reclamation P-SMBP powerplants are Canyon Ferry, Yellowtail, Boysen, Pilot Butte, Glendo, Kortes and Fremont Canyon. They have a total operating capacity of 526,100 kW from 18 generating units. In addition, the power systems of the Bureau of Reclamation's Colorado-Big Thompson, Kendrick, Shoshone and North Platte Projects have been integrated with the Western Division for marketing and operation. These projects, with their 19 generating units, have a maximum operating capacity of 350,000 kW.

Approximately 7,600 circuit miles of high-voltage transmission lines and 96 substations help serve Western's approximately 200 Eastern Division electric cooperatives and other customers. Long range firm power sales are approximately 8.5 billion kWh per year.

The Eastern Division is interconnected with Southwestern Power Administration at Maryville, Missouri, and through a transmission service agent's system, with Bonneville Power Administration. Power and energy are interchanged with, sold to or purchased from these and other utilities, from time to time, to improve overall system operations.

Loveland Area operates 3,500 circuit miles of high-voltage transmission lines and 90 substations. Long range firm

WAPA (Cont.)

power sales to 45 customers in the Western Division are about 2 billion kWh per year.

Western is proposing to tie its allocation of energy to long-term energy planning and conservation as part of its implementation of federal energy policy. The purposes of this program, called Energy Planning and Management Program or EPAMP, are to (1) achieve better planning for future energy resources, (2) greater energy efficiency and (3) full and open consideration of alternatives. Some of the energy Western customers receive in the future will depend on their success in achieving these objectives.

Western has been holding many public meetings to talk with customers about EPAMP. This is in tune with the customer-oriented relationship Western has with its customers. The conversations have been going well, and Western is confident the final character of EPAMP will work for all concerned.

Western's priorities include customer service, reliable supplies of power, reasonable rates and assistance in realizing conservation.

Environmental Protection Agency

The Environmental Protection Agency (EPA) provides regular program grants under the Clean Water Act (CWA) to the states to operate water quality and drinking water programs. Funding is also provided for watershed projects that address nonpoint sources of pollution, and lakes restoration and preservation. In addition, the Agency participates in a cooperative fish tissue sampling network with the states, reviews and approves (as appropriate) water quality standards and wasteload allocations, and provides oversight for various federally funded state programs. The Agency continues to provide grants to states for establishing revolving loan funds that assist in construction of publicly owned wastewater treatment facilities.

Recently, all states have revised water quality standards to implement new toxic provisions of the CWA. These new standards will require revision of discharge permits further limiting discharge of toxics to the surface waters of the Missouri River basin. In addition, new drinking water standards for 38 synthetic organic and inorganic chemicals places greater importance on improved water quality for drinking water sources. One example is the concern, being raised by many communities utilizing surface water, of the levels of atrazine being found in streams and lakes in the lower Missouri Basin.

In the future, EPA's activities will be taking on a more geographically focused approach, with coordinated program actions targeted to priority watershed areas.

U.S. Geologic Survey

The mission of the U.S. Geological Survey (USGS) is to provide information that will assist resource managers and policy makers at the federal, state, and local levels in making sound decisions. This information is generated through assessments of the quantity and quality of the nation's natural resources, including minerals, energy resources and water. The USGS's scientific programs are administered through the Water Resources, Geologic, and National Mapping Divisions, supported by the Administrative and Information Systems Div.

The Water Resources Division (WRD) is charged with providing the hydrologic information and understanding needed by others to achieve the best use and management of the Nation's water resources. To accomplish this mission, the WRD, in cooperation with State, local, and other Federal agencies:

- Systematically collects and analyzes data to evaluate the quantity, quality, and use of the Nation's water resources, and provides results of these studies to the public.
- Conducts water-resource appraisals describing the occurrence, availability, and physical, chemical and biological characteristics of surface and ground water.
- Conducts basic and problem-oriented hydrologic and related research that aids in alleviating water-resources problems.
- Coordinates the activities of Federal agencies in the acquisition of water-resources data for streams, lakes, reservoirs, estuaries, and ground water.
- Provides scientific and technical assistance in hydrologic fields to other federal state, and local agencies, licensees of the Federal Energy Regulatory Commission, and to international agencies on behalf of the Department of State.
- Administers the State Water Resources Research Institute's Program and the National Water Resources Research Grants Program.

BASIN STATES REPORTS

MISSOURI BASIN TRIBES:
Brenda Schilf, Representative

With the current review of the Master Manual and recent changes in the process for developing Missouri River Annual Operating Plans, the opportunity exists to improve the working relationship among the sovereigns in the basin - including the basin's 26 Indian tribes. The Missouri River Tribal Coalition is enabling tribes to become more actively involved in the issues, decisions, and policies regarding the Missouri River. Now as never before, the tribes have a unique opportunity to work in conjunction with the state and federal governments on the management objectives of the Missouri River Basin. Like the basin's states, the Missouri River tribes seek to maximize operational benefits of the main stem reservoirs while promoting economic development and environmental enhancement throughout the basin.

Because of the recent drought, a priority of the Missouri Basin States Association (MBSA) has been to work with the Corps of Engineers on reviewing and updating the Master Manual. To better address these issues MBSA has set up four technical subcommittees to work directly with the Corps of Engineers on the environmental impact statement - the major thrust of the Master Manual Review process. Brenda Schilf, MBSA's tribal representative, has been actively participating on all four technical subcommittee meetings, and conference calls.

MBSA also established an Advisory Committee develop alternatives to the Annual Operating Plan (AOP) for 1992. The tribal delegate to MBSA worked with other AOP committee members to develop recommendations on the most equitable approach by which to manage the system.

As the tribal delegate to the Missouri Basin States Association, Ms. Schilf's responsibilities include communication and education of non-Indians regarding tribal sovereignty. She has also been working with U.S. Army Corps of Engineers (COE) on drafting a policy statement defining the Missouri Tribes (Cont.) Corps' relationship to the tribes. From the tribal perspective, the policy statement must stress the government-to-government relationship which tribes presently enjoy when working with other federal agencies. The policy statement should open avenues for funding and technical assistance from the Corps of Engineers which tribes are not eligible for at the present time. Wording in the current statutes only mentions states. The policy statement will also provide a basis for the COE to work with tribes throughout the Basin in an impartial and effective manner.

Ms. Schilf attended a workshop with the Western Governor's Association to identify opportunities and challenges to western water management. The first session was held in May, and the second session is scheduled for later this Fall. Issues identified included: protecting endangered species, settling and providing for Indian Water Rights, and other issues of concern to the tribes of the Missouri River basin. Also of interest to the basin's tribes is the fact that the Northern Cheyenne tribe and the State of Montana signed a water compact agreement this summer. That and the Fort Peck agreement will be final pending ratification by Congress. Montana appears to be taking the initiative toward resolving Reserved Indian Water Rights with the tribes in their state.

MISSOURI:
Governor John Ashcroft

Governor John Ashcroft became Chairman of the National Governors Association at their mid-August meeting in Seattle. He will emphasize education during his tenure as chairman. In July, Gov. Ashcroft met with Colonel Hazen of the Missouri River Division, and Col. Boutin of the Kansas City District, COE to discuss Missouri River issues. The Governor also made tentative arrangements to meet with newly-confirmed Asst. Secr. of the Army (CW), Nancy Dorn, during her upcoming visit to the Missouri River Basin.

The Department of Natural Resources sponsored the second Missouri (Cont.) Missouri River Constituency Conference July 22nd in the capitol city. The day-long session attracted more than a hundred participants from all sectors of the constituency. About 15 state and federal agencies presented their perspectives on Missouri River issues, and staff from the offices of Senators Bond and Danforth shared a Washington perspective. The Corps summarized progress on the Master Manual review, and responded to numerous questions during the discussion period. Preliminary planning is underway for a third Missouri River Constituency Conference, tentatively set for late winter/early spring, probably in St. Joseph or Kansas City, to make it more convenient for other states and interest groups to attend. Members of the public are encouraged to attend. For more information on the Conference, contact Jerry Vineyard at 314-368-2148.

IOWA:
Governor Terry Branstad

The Iowa General Assembly enacted legislation this year creating a Missouri River Authority - an independent body intended to focus more attention on the river. The Authority is directed by a board composed of government representatives from each county along the river plus public members. State agencies provide ex-officio members to aid in coordination. The Authority is expected to develop plans for acquisition and management of lands along the river with the goal of creating a green belt. Perhaps the most difficult task for the Authority will be to find resources to implement plans. In the interim, the legislators formed a committee to look at the environmental, recreational and economic development potential of the state's rivers. The focus is likely to be on Iowa's border rivers, the Missouri and the Mississippi.

Along with Kansas, Nebraska and Missouri, Iowans are hopeful that $1.5 million appropriated by Congress to the Missouri River Mitigation project will translate into restoration of habitat along the river.

NEBRASKA:
Governor Benjamin Nelson

The Kansas-Nebraska Blue River Compact was begun January 25, 1971, to promote interstate harmony between Kansas and Nebraska over water issues concerning the Big Blue and Little Blue rivers. This compact was designed to help maintain minimum or greater flows as measured at river gages on the Kansas-Nebraska state line. These gages are located at Barneston, Nebraska, on the Big Blue River and at Hollenberg, Kansas, on the Little Blue River. Based upon the data collected at these stations, actions are instigated in the event of below-minimum flows.

As prescribed by the Compact, flows are monitored from May 1 through September 30 each year, with each month having a specific minimum flow required for both Rivers. For only the second time in the 20-year history of the Compact, regulations of water usage in the Little Blue River Basin were applied. In 1988, notices regulating diversions to their permit limits were issued to maintain minimum flow.

On July 24, 1991, the Kansas Division of Water Resources contacted the Nebraska Department of Water Resources in regards to a below-minimum flow in the Little Blue River. The prescribed flow for July in the Little Blue River is 75 cfs. The river fell below this mark on July 18, but up to 3 inches of rain in the basin temporarily rectified the problem.

On August 1, the minimum flow fell below the 80 cfs prescribed for August and regulating orders went into effect. Once again, rain boosted river flows above the minimum, but on August 10, the flow of the Little Blue River again fell below the required flow. Notices to stop pumping were issued by the Nebraska Department of Water Resources on August 16 for all Little Blue River Basin diversion permit holders with priority dates after November 1, 1968, in accordance with the guidelines within the Compact. This closure affected 439

Nebraska (Cont.)
junior permits covering 20,000 irrigated acres, while the remaining 165 senior permits covering 10,000 acres were still being regulated.

Despite the regulation activities, the flows have remained below the minimum Compact requirements on the Little Blue River. The Big Blue River was able to meet minimum flow requirements throughout the 1991 target months with no regulatory actions taken.

KANSAS:
Governor Joan Finney

(See Nebraska's discussion of the Kansas-Nebraska Blue River Compact.)

WYOMING:
Governor Mike Sullivan

Little Horn Energy Wyoming, Inc. held public hearings in Sheridan, Wyoming on August 14 on their planned hydro facility on the Dry Fork of the Little Bighorn River in the Bighorn National Forest. The hearings were part of the Federal Energy Regulatory Commission's (FERC) requirements for the issuance of a license for application to construct. The development of the 1,000 megawatt facility would consist of two reservoirs at a projected cost of $1.4 billion. Electricity would be made available for use during peak demand periods. It would be used to pump water back to the upper reservoir during low energy demand periods.

This project has been on the drawing board for many years. Project proponents have obtained large sums of venture capital from European investors. The many critics of the project include those concerned with elk calving areas and established migratory routes through the area. Others have expressed concerns about a development of this type & size in a pristine, nearly roadless area, especially since there is no specifically identified need for the electricity.

Supporters of the project believe the project would diversify the county's tax base and add an anticipated $15-20 million into the local economy annually.

Wyoming (Cont.)
The Little Bighorn River, including the Dry Fork, was recommended for inclusion in the Wild and Scenic River system. The Secretary of Agriculture overturned the local Forest Service recommendation and removed the portion of Dry Fork where the hydro facility is to be located.

This FERC application is just one of many licenses and permits the Little Horn Energy group must obtain before proceeding with the project. An additional threat to the project has been posed by the Crow Indian Reservation which lies downstream of the project, just over the Montana-Wyoming border. The Crow have claimed rights to the flows of the Little Bighorn and its tributaries under the Winters doctrine.

The Wyoming Game and Fish has identified the area downstream of the proposed project for an instream flow right. The application for the instream flow has been filed and a hearing will be conducted by the Wyoming State Engineer on October 3, in Sheridan.

NORTH DAKOTA:
Governor George Sinner

Eight Citizen Advisory Boards (CAB) representing major watershed districts in North Dakota are currently assessing water needs in the state. Their job is to update the list of 116 water problems and 69 development opportunities identified during the statewide planning process in the early 1980's. CAB members are currently taking public comments in their areas and analyzing the 1983 list in order to meet current water development needs.

Water problems identified in the 1983 State Water Plan include flooding, erosion, poor water quality, low supply of quality water, need for more water-based recreation, inadequate wildlife habitat, and eutrophication of lakes.

The 1983 plan also identified ways to resolve the problems. But the solutions must be able to be built and paid for. They

North Dakota (Cont.)
must also be acceptable to the people who live in the area and be environmentally sound.

Based on the citizen groups' findings, the North Dakota Water Commission staff will develop alternatives which either solve or lessen the severity of the problems in each region.

Closely tied to this planning effort are the efforts of the Governor's Water Strategy Task Force. In April, Gov. Sinner created the Task Force to help generate public support for water development and find ways to fund long-range water management and development projects.

The Task Force recently held a series of public meetings around the state to find out which water issues were most important to citizens. The vast majority of citizens responding to the Task Force's questionnaires thought the state's most critical water need is to claim its rights to Missouri River. The River accounts for 96 percent of the water that flows through North Dakota.

Other needs ranked high in importance by respondents were water for industrial development; stabilizing Devils Lake, a closed system lake that is dying up because of decreasing water levels; and finishing the Southwest Water Pipeline, which will bring Lake Sakakawea water to communities in southwestern North Dakota. Those communities suffer from well water high in sodium and dissolved minerals.

The Task Force plans to recommend funding methods to the state legislature during a special legislative session scheduled for late October 1991. The Task Force estimates the state will need an additional $22 million per year for the next eight years to complete the necessary water projects.

Among other projects targeted for funding are the Garrison Diversion Project, Northwest Area Water Supply project, and Municipal, Rural, and Industrial water supply projects.

SOUTH DAKOTA:
Governor George Mickelson

South Dakota will initiate construction next month of a $1.6 million marina breakwater on the Missouri River as part of a major family destination resort facility. The $14 million resort will be located on the western breaks of the Missouri River overlooking Lake Francis Case near Chamberlain, South Dakota. When completed, it will include a 100-room motel and conference facility, a marina for 400 boats, 40 apartments and 30 lots for rental cabin development. It is a public/ private partnership between the state, Lyman Co., the town of Oacoma, the Corps of Engineers and the resort operator, Regency Inns Mgt.

Guests at the River Ranch Resort will have access to a variety of recreational facilities, including a swimming pool, tennis courts, a private beach, and hiking paths, and two boat ramps. Completion is set for 1993.

The $1.6 million for the breakwater is derived from that portion of the state's tax on gasoline used for motor boats. Nine-tenths of one percent of the state's gas tax is available for boating facilities, and a portion of these funds will be used for the River Ranch breakwater project. Construction of the breakwater will coincide with the temporary shutdown of the Oahe Dam for normal maintenance purposes, thereby reducing water levels to an optimum for breakwater construction. The breakwater will be completed by the end of this year and construction of the resort will begin next spring.

Under Gov. Mickelson's direction, the state of South Dakota has already provided $750,000 for an access road to the site and $350,000 to match with local money for sewer and water development. In addition, the state was responsible for the preparation, submission and negotiation of the lease of the property with the Corps.

The resort at Chamberlain was one of four potential development sites identified in a plan commissioned in 1988. The

South Dakota (Cont.)
Recreational Mgt. Opportunities plan analyzed the feasibility of destination resort developments along the Missouri River. That kind of development has been a high priority of the Mickelson administration.

As part of that development, improvements have been made at Lewis and Clark recreation area at Yankton, including improvements to parking lots, roads, sewers; expansion of the marina; and construction of resort cabins and rooms. In addition, a breakwater has been built on Lake Oahe near Pierre to facilitate access and encourage resort development. Next on the development agenda will be work at Mobridge.

MONTANA:
Governor Stan Stephens

Several activities are currently under way to improve the management of Fort Peck Lake and the Missouri River, a critical component to the economy of northeastern Montana. These activities include the upper basin states' litigation against the Corps, the review and update of the Master Manual, and several local initiatives.

To help coordinate these ongoing activities and develop a vision for the future of Fort Peck Lake and the Missouri River country, Montana Governor Stan Stephens convened a roundtable on September 5 in Glasgow. The roundtable was designed to identify the major issues, concerns, and priorities for the management of Fort Peck Lake on the Missouri River. It also generated strategies for achieving the vision for the future of the area.

Over 100 people attended the roundtable discussions, including members of the state's congressional delegation, state legislators, the media, community leaders, recreationists, tribal members, and other interested parties. The discussions led to a recommendation to Governor Stephens to create a coordinating body for the northeast region of the state. The purposes of the body include resource and economic development for the region.

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The Missouri Basin States Association
P.O. Box 9193
Missoula, Montana 59807

The Missouri Basin States Association is a 501 (c)(3) non-profit organization.

MBSA STAFF:
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59107 (406) 542-6272 FAX: (406) 542-7585

MBSA OFFICERS:
CHAIRMAN: Jeff Fassett, Wyoming State Engineer
VICE-CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
SECRETARY: G. Tracy Mehan, III, Director, Missouri Dept. of Natural Res.
TREASURER: Michael Jess, Director of Water Resources, Nebraska DNR

OTHER STATE DIRECTORS:
Karen Barclay, Director Montana Dept. of Natural Res. and Conservation
Tim Edman, South Dakota Office of the Governor
David Pope, Director of Water Resources, Kansas Board of Agriculture
Jim Brown, State Water Coordinator, Iowa Dept. of Natural Resources.

TRIBAL REPRESENTATIVE:
Brenda Schilf, Missouri Basin Tribes, Billings, MT

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keeniyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
Loyd Waite, U.S. Geologic Survey
Jim Davies, Western Area Power Administration

MISSOURI BASIN
STATES ASSOCIATION
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX NO. (406) 542-7585

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THE MISSOURI RIVER REPORT

THE OFFICIAL PUBLICATION OF THE
MISSOURI BASIN STATES ASSOCIATION

P.O. BOX 9193 MISSOULA, MONTANA 59807 PHONE 406-542-6272

JANUARY 1992

MBSA RECOMMENDATIONS FOR 1992 ANNUAL OPERATING PLAN ADOPTED BY CORPS:

Last August, the Missouri Basin States Association Directors approved a specific set of recommendations for the Corps of Engineers to use in developing the 1992 Annual Operating Plan (AOP) for the Missouri River. The Association's official recommendations - reported in the October, 1991 issue of the Missouri River Report - included the following:

Winter Flows: Maintain the lowest winter flows acceptable, based on the Corps' experience. These flows will almost certainly exceed the winter flows dictated by the Master Water Control Manual which calls for very low winter releases when reservoir storage levels are as low as they currently are.

Navigation Season Length: Begin the navigation season on April 1, 1992 (as called for in the Master Manual) rather than delaying the start of the season a week as has been done in recent years. Maintain a full eight month navigation season if runoff into the Missouri River is high to very high; close the season two weeks early if runoff is average; and shorten the season 4 to 5 weeks if runoff is low to very low. These recommendations would result in slightly more storage (under medium to very low runoff scenarios) than would a plan which strictly followed the Master Manual. But the recommendations are less water conservation-minded than the 1991 AOP.

Navigation Service Levels: Follow the Master Manual formula which ties releases of water for navigation to overall system storage in the Missouri River mainstem reservoirs. Because of the current low system storage, service levels will be less than full service in 1992.

The Corps announced in late November that it had finalized the Annual Operating Plan for the Missouri River for 1992. The Corps' final Operating Plan follows MBSA's recommendations virtually point for point.

> The Corps' final decision follows MBSA's recommendations virtually point for point

This was the first year of MBSA's direct involvement in developing recommendations for the draft Operating Plan for the Missouri River. In previous years, the Corps developed drafts in relative seclusion. The public's role was a reactive one of responding to the Corps' recommendations. This year, the Corps opened their process to the Missouri Basin States Association Directors and the Directors' technical staff. The result of this seemingly minor change was an historic agreement among the basin's state and tribal representatives on how to operate the River system. The process was unifying rather than divisive, and it contributed to improved relations among and between the basin's states, tribes, and the Corps of Engineers. The MBSA Directors look forward to working with the Corps in a similar fashion to develop recommendations for future Missouri River Annual Operating Plans as well as proposed revisions to the Master Water Control Manual.

STATUS REPORT ON INDIAN WATER RIGHT NEGOTIATIONS/LITIGATION IN THE MISSOURI BASIN.

(Prepared by the Bureau of Indian Affairs)

In 1979, Montana enacted legislation which provided a judicial mechanism for adjudicating or quantifying water rights in the state of Montana, including Indian and non-Indian federal reserved rights. Montana's general stream adjudication is unique in several respects. One of its most unique aspects is its statutory invitation to settle Indian and federal reserved water rights by *negotiated* agreement. The statute invites tribes within the state of Montana to join in negotiations with the state to "...conclude compacts for the equitable division and apportionment of waters between the State and its people and the several Indian tribes claiming reserved water rights with the State." In large part due to this statute, all of the tribes in the state of Montana have participated in settlement negotiations with Montana's Reserved Water Rights Compact Commission. The following provides an update on the status of water rights negotiations and/or litigation for tribes in Montana and other Missouri basin states:

Fort Peck: A Fort Peck Compact was approved by the tribal, state and federal parties in 1985. The compact provides for 1,050,000 acre-ft./yr. of water from the mainstem of the Missouri River, tributaries of the Missouri (except the Milk River), and groundwater. The priority date is 1888. Up to half of this water right can be for consumptive use. The Fort Peck compact has been approved by the Montana Legislature, the Fort Peck tribes, and executed on behalf of the federal government by the U.S. Attorney General and the Secretary of Interior. Its ratification is pending in Congress.

Northern Cheyenne: The Northern Cheyenne tribe and the state of Montana reached an agreement on a compact in early 1991. The compact fixes the annual tribal water right at 27,500 acre-ft/yr. from a repaired and enlarged Tongue River Dam, 12,500 acre-ft./yr. from surface and groundwater in the Tongue River basin, 21,300 acre-ft./yr. from the Rosebud Creek basin, and 30,000 acre-ft./yr. from the Big Horn Reservoir. Bills have been introduced in Congress to ratify and fund the compact. All actions are pending.

Fort Belknap, Rocky Boy's, and Blackfeet: The state of Montana and the three tribes of the Milk River basin have held intermittent water rights negotiations for years. Fort Belknap and Rocky Boy's attorneys have promised a draft compact by the end of 1992 to be considered by the 1993 Montana Legislature. The Montana Attorney General has begun the process of forcing the United States, on behalf of the Blackfeet tribe, into court to adjudicate Blackfeet water rights. Both the United States and the Blackfeet tribe are resisting this effort by the Montana Attorney General.

Crow Reservation: The Crow tribe recently requested the appointment of a Federal Negotiating Team to facilitate the process of negotiating a compact with the state of Montana. Other than this action, there were no litigation or negotiation activities in process with the Crow Reservation at the end of 1991.

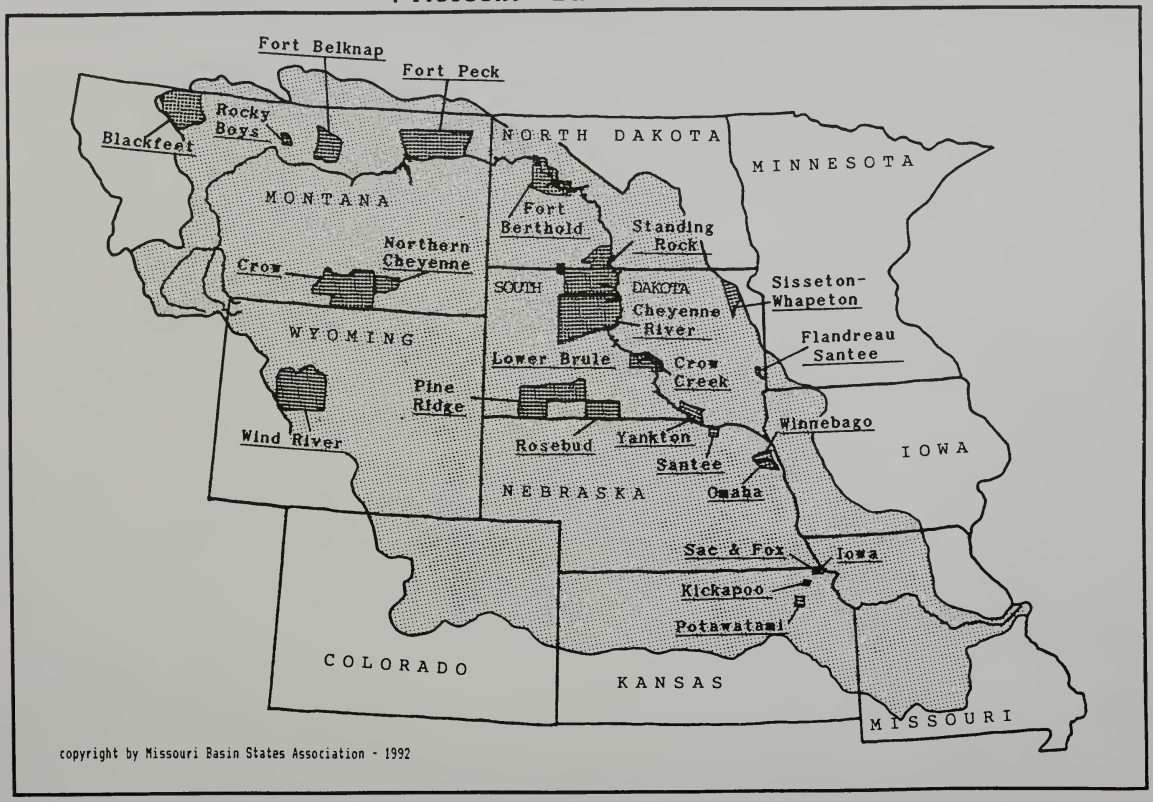
Fort Berthold and Standing Rock: A bill to compensate these two tribes for lands taken during construction of Garrison Dam (S. 168) was pending at the end of 1991. There were no litigation or negotiation activities in process with the tribes on these reservations at the end of 1991.

Wind River: The first phase of Wyoming's 1977 adjudication of the Big Horn River system - quantification of the reserved water rights for the Wind River reservation - was finally resolved by the U.S. Supreme Court in 1989. The reservation was awarded approximately 500,000 acre-ft./yr. from the Wind River and its tributaries. However, many other issues remain unresolved. Some of these issues include who administers water rights within the reservation boundaries, and whether the Wind River tribes can convert a portion of their water rights to instream flows.

South Dakota Tribes: There were no active negotiation or litigation activities at the end of 1991 between the state of South Dakota and the tribes within the boundaries of the state.

Nebraska Tribes: There were no active negotiation or litigation activities at the end of 1991 between the state of Nebraska and the tribes within the state. The Santee Sioux and Winnebago tribes have a goal of quantifying their water rights and negotiating a settlement with the state of Nebraska.

Missouri Basin Tribes



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Status of Indian Water Rights (Cont.)

Kansas Tribes: There were no active negotiation or litigation activities at the end of 1991 between the Kansas and the Sac & Fox, Iowa, Kickapoo and Potawatomi tribes. Kansas has a water planning process which they hope to use to integrate Indian water rights into the state system. The Kickapoo tribe is resisting cooperation with the state, but the other tribes have begun the process of identifying water supply and uses for their reservations.

MBSA BUSINESS NEWS

DIRECTORS DEVELOP POSITIVE PROGRAM AGENDA:

The past five years of drought the Missouri basin have produced a legitimate sense of crisis in recent years. Water managers throughout the basin have been preoccupied with the unsavory task of distributing the pain of the drought among the basin's various water users. Now that the basin has begun to receive more consistent precipitation (though it is far too early to declare an end to the drought), and now that the MBSA Directors have begun working together on River management plans, the sense of crisis has somewhat diminished in its intensity. This has given water managers a chance to change the focus from distributing pain to the distribution of the benefits of living in this incredible River basin.

The Missouri basin states (including Colorado and Minnesota) include a total of 10 Governors, 18 Tribal Chairmen, 40 United States Congressmen and 20 Senators. If the basin could speak with one voice, it would muster considerable political support for its programs. With this in mind, the MBSA Directors met on December 4th and 5th in Denver, Colorado, to develop a list of project ideas to pursue in coming year. The Directors discussed a variety of initiatives, including fish and wildlife mitigation measure, wetlands development, improving federal water legislation, and tracking water quality issues in the basin. The Directors focused on positive program ideas that everyone could benefit from and agree on. At its next several meetings, the Association will continue to develop an agenda to enhance the benefits of living in the basin. In the meantime, the Directors agreed for the Association to work towards:

- Reversing the decline in staffing and funding of U.S.Geological Survey Cooperative programs to manage the complex water data base for the basin.
- Revising legislation which provides technical water planning assistance to states. Among other things, the Association wants to make Indian tribes, as well as the states, eligible for the planning assistance.
- Assessing the status of Missouri River water quality studies and programs in the various basin states and federal agencies.
- Tracking federal legislation affecting water management in the Missouri Basin, specifically, the 1993 Water Resources Development Act and the President's FY 1993 budget.

MBSA APPOINTS NEW EXECUTIVE COMMITTEE:

At its recent quarterly meeting in Denver, the MBSA Directors appointed a new Executive Committee for 1992. The Executive Committee consists of officers appointed by and from the Board of Directors. The new Executive Committee is comprised of the following members:

MBSA News - Executive Committee (Cont.)

Office:	New Officeholder:	Representative of:
Chairman:	Dave Sprynczynatyk	North Dakota
Vice Chairman:	G. Tracy Mehan, III	Missouri
Secretary:	Brenda Schilf	Missouri River Tribes
Treasurer:	Karen Barclay	Montana

Jeff Fassett took over the Chairmanship in June, 1990 at a time when the Association had neither staff nor a specific agenda. Under Jeff's firm and eminently fair leadership, the Association has greatly expanded its influence, its productivity, and its leadership role in Missouri River management issues. Jeff has helped the Association forge historic agreements among its members under the most difficult of circumstances. Jeff, who serves as Water Engineer for the state of Wyoming, will continue to be Wyoming's representative to the Association.

Dave Sprynczynatyk, MBSA's new chairman, was appointed in July, 1989, by the North Dakota State Water Commission as North Dakota's 15th State Engineer. During Dave's 19 years as an employee of the State Water Commission, he has served as a planning engineer, surface water hydrologist, and Director of the Commission's Engineering Division. In addition to his role as Chairman of the Missouri Basin States Association, Dave serves as Co-chairman of the International Souris River Board of Control, Board Member of the National Water Resource Association, Executive Council Member of the Western States Water Council, and representative to the Red River Water Resource Council.

Another item of note is the fact that Tim Edman, South Dakota's representative to MBSA for the past year, has accepted a promotion within his state government and is now serving as Commissioner of South Dakota's Bureau of Administration. Replacing Tim as South Dakota's representative to the MBSA is Robert E. Roberts, Secretary of the SD Dept. of Environment and Natural Resources. Roberts was appointed by Governor Mickelson as Department Secretary and began work on August, 1990. He holds a Bachelor of Arts degree from the University of Alabama and a Masters in Public Administration from Auburn University. Roberts served a 23 year career in the Air Force, where he held such assignments as Congressional Liaison Officer and White House Liaison Officer for the Secretary of the Air Force. He also served as Base Commander at Ellsworth Air Force Base prior to his appointment as Department Secretary.

MISSOURI RIVER WATER REPORT

Winter's early arrival caused ice problems along several stretches of the Missouri River in November and December. Though normal operations were underway at Garrison, some lowland flooding was reported in the Bismarck, N.D. area. An ice bridge also formed in the reach between Gavins Point Dam and Sioux City, Iowa. Moderating temperatures relieved most problems. Garrison releases have continued to be restricted due to the lowland flooding.

On December 17, the mountain snowpack was approximately 146 percent of normal above Three Forks, Mont., and 138 percent between there and Fort Peck. In the Garrison reach, it was 125 percent of normal. The South Platte basin was approximately 138 percent of normal. Normally, 30 percent of the mountain snow has fallen by mid-December, with accumulations peaking in early to mid-April.

Preliminary figures indicate that the 1991 navigation season was more successful than 1990. An estimated 1.9 million tons of commercial cargo moved on the Missouri this year, up almost 50% from last year's 1.3 million tons. Storage in the six mainstem reservoirs ended November at 44.9 million acre feet (MAF), 3.4 MAF more than last year.

Reduced releases during most of November resulted in the generation of 135 million kilowatt-hours of electricity, only 36 percent of normal.

FEDERAL REPORTS

CORPS OF ENGINEERS

HAZEN RETIRING:

Col. Donald Hazen, Missouri River Division Engineer since January 1991, is retiring December 31, after 29 years in the U.S. Army Corps of Engineers.

He is being replaced by Col. Gaylerd "Sandy" Davis, who has served as deputy division engineer since July 1990.

Prior to assuming command of the Missouri River Division, Hazen was commander of the Omaha District, playing a key role in the permit decision for the Two Forks Dam project in Colorado.

Hazen is joining J.M. Montgomery Consulting Engineers in Pasadena, California.

Colonel Davis has been named acting Missouri River Division Engineer. He has spent the majority of his career in combat engineer positions, much of it overseas.

Born in New Hampshire and raised in North Carolina, Davis earned a Bachelor of Science degree in Civil Engineering from Clemson University and a Master of Science degree in Construction Management from Boston University.

ENVIRONMENTAL PROTECTION AGENCY

The first session of the 102nd Congress saw extensive debate over water issues involving wetlands and non-point source pollution as well as hazardous and solid waste topics such as interstate transport and recycling. No major environmental legislation was passed although bills addressing Resource Conservation and Recovery Act (hazardous wastes) provisions for federal facilities passed both houses and await conference committee action. Additionally, a bill to elevate the Environmental Protection Agency to cabinet status passed the Senate, but the House did not act.

1992 Appropriations for the Agency total about $6.67 billion - about $0.46 billion above the budget request. The largest single item is $2.4 billion for the wastewater treatment facility construction state revolving fund. Overall, state program grant authority in the budget request totaled approx. $0.5 billion. Some of the specifics in the bill are:

Clean Lakes Grants	-	$ 7,000,000
Non-point Source Grants	-	$51,750,000
Multi-media grants to Tribes	-	$ 2,200,000
Non-point projects at Universities of Kansas, Neb. and Iowa State	-	$ 1,450,000

BUREAU OF RECLAMATION

When the first session of the 102nd Congress came to an end just before Thanksgiving, it left on the table a $1.5 billion omnibus water bill (H.R. 429) containing several titles which would authorize the Bureau of Reclamation to construct needed water resources development projects in the upper Missouri River. Controversial issues associated with the Reclamation Reform Act (RRA), double subsidy provisions, and water contracting have stalled the legislation in the Senate. Projects contained in the omnibus bill of significance to the Basin include the $100 million Mid-Dakota rural water system that would provide quality drinking water to more than 30,000 residents in central South Dakota; raising the federal cost ceiling to $80 million on the Buffalo Bill Dam Modification Project near Cody, Wyoming; increasing the ceiling on the High Plains States Groundwater Demonstration Program from $20 million to $34 million; authorizing the Lake Andes-Wagner demonstration program in South Dakota, and a comprehensive study associated with drainage water

from irrigation projects.

Other legislation pending in Congress would authorize modifications to the state-owned Tongue River Dam in Montana. This bill may also be folded into the omnibus bill when the Senate begins consideration of H.R. 429, probably in early February. Another bill would authorize the allocation of Pick-Sloan Missouri River Basin Program project pumping power to two non-federal irrigation project in Montana. Lastly, legislation was introduced before Thanksgiving to authorize construction of the Northwest Area Water Supply/Fort Berthold Integrated Water Supply Project in North Dakota. The project would resolve serious water quality and water quantity problems in several rural counties of North Dakota.

STATE REPORTS

MONTANA

GOVERNOR STAN STEPHENS:

In June, the reserved water rights compact with the Northern Cheyenne Tribe was signed. The settlement includes a provision for the enlargement of the Tongue River Dam. In late July, legislation was introduced in Congress to ratify the compact and provide funding for the enlargement of the reservoir. Hearings on The Northern Cheyenne Tribe Reserved Water Rights Settlement Act of 1991 were held in Washington, D.C. on November 15, 1991. Total costs for enlargement of the dam and construction of a new spillway are estimated at $52.2 million.

As part of the ongoing study efforts, various agencies are studying the potential environmental effects of raising the Tongue River Reservoir 4 feet. Ducks Unlimited is wrapping up a study of potential wetlands mitigation and enhancement areas. The occurrence and effects on threatened and endangered species is being studied. The Montana Department of Natural Resources & Conservation (DNRC) has contracted for a study to identify and quantify impacts to the Decker Coal Company mines at the upstream end of the reservoir. The DNRC hopes to see mark-up and passage of the Northern Cheyenne Water Rights Settlement bill soon.

NORTH DAKOTA

GOVERNOR GEORGE SINNER:

On October 22, 1991, North Dakota Governor George Sinner turned the valve which officially opened the Southwest Pipeline constructed to deliver Missouri River water to the city of Dickinson. "This is an historic event for water development in the state of North Dakota," said Sinner. Southwestern North Dakota has historically endured chronic water supply problems, many of which will be alleviated by the Southwest Pipeline. The North Dakota State Legislature appropriated funds to start construction of the pipeline in 1985, and actual construction began on April 9, 1986. The water delivery to Dickinson late last year marks the beginning of service for the project. But the majority of construction - connecting pipelines to the small communities of southwestern North Dakota - awaits completion.

SOUTH DAKOTA

GOVERNOR GEORGE MICKELSON

HYDROPOWER UPGRADES:

The Corps of Engineers has determined that replacing the turbine runners at Oahe and Fort Randall dams will greatly increase the efficiency of the two reservoirs' hydroelectric facilities. An estimated 50 megawatts of additional power

SOUTH DAKOTA (Cont.)

capacity and 180 million kilowatt-hours of additional energy (enough to supply 18,000 homes annually) will be produced by the upgraded facilities without increasing the flow volumes through the turbines. The state of South Dakota is considering providing funding or services to the Corps to design, manufacture, and install replacement turbines. South Dakota is proposing that the additional power be marketed through the Western Area Power Administration to WAPA's existing customers in the state. The upgraded project will provide benefits to WAPA's customers in the state by providing additional clean hydropower at a substantially lower cost than other sources of power. In return for its financial support for the upgrade, South Dakota hopes to realize a modest source of funding for water development projects in the state.

STATE LEGISLATION:

The Second Century Environmental Protection Act, a broad-based approach to South Dakota's environmental problems, will be introduced during the 1992 South Dakota Legislative Session. The proposed bill would raise an estimated $2.6 million, with funds going to programs addressing solid waste, air quality, surface water discharges, hazardous waste and

SOUTH DAKOTA

STATE LEGISLATION (Cont.):

drinking water. The bill is the result of extensive public participation. Robert E. Roberts, Secretary of the South Dakota Department of Environment and Natural Resources (and South Dakota's new representative to MBSA), and his staff have made over sixty presentations on the proposed bill around the state. And they have incorporated many of the ideas they gathered into the bill.

Federal Legislation: South Dakota is one of the western states anxiously awaiting Senate action from the 102nd Congress on H.R. 429, the Reclamation Projects Authorization and Adjustments Act. The Act, which passed the House in June, authorizes South Dakota's Mid-Dakota Rural Water System ($108 million), and the Lake Andes-Wagner/Marty II Research Demonstration program ($30 million).

WYOMING

GOVERNOR MIKE SULLIVAN:

A joint meeting of the Upper Missouri Water Users Association (UMWUA) and the Wyoming Water Development Association was held November 20-22, 1991 in Cody, Wyoming. Over 300 people attended the 3 day conference, which focused on current management challenges facing the Missouri River Basin. A tour of the newly enlarged and rehabilitated Buffalo Bill Reservoir on the Shoshone River was held on the first day of the conference. The tour also included a visit to the newly constructed water treatment plant which provides treated water to many rural communities in the northern Big Horn Basin in Wyoming.A Forum was held Thursday afternoon on Upper Missouri Basin Water Issues, and was facilitated by Jeff Fassett, Wyoming State Engineer. Karen Barclay,
Director of Montana's Department of Natural Resources and Conservation, Robbie Roberts, Secretary of South Dakota's Department of Environment and Natural Resources, and Gene Krenz, of North Dakota's State Engineer's Office, presented each of their state's perspectives on current management issues on the Missouri River. Each of the upper basin states praised the Corps of Engineer's on their new willingness to open their planning process to input from the states, but each also expressed concern that the Federal Government continues to send mixed signals to the states regarding their authorities and management flexibility in solving water management problems in the upper basin.

IOWA

GOVERNOR TERRY BRANSTAD:

The 1992 Session of the Iowa General Assembly is certain to be busy. The state's poor financial condition continues to be the main topic, but the evaluation of economic conditions by a number of groups holds promise that some solutions can be identified. Legislative proposals of the Department of Natural Resources reflect the condition of the state. One recommendation is to create an environmental trust fund. The trust fund would receive revenues from fees for the issuance of permits, and in turn would fund the state's environmental program. Permit fees have ben authorized for several years, but rarely applied. The Federal Clean Air Act and the Clean Water Act provide the impetus for considerinexpanded fees with the mandate for charges for air and water quality permits. The trust fund could offset reductions in general fund dollars, and assure that the state's environmental programs will continue to be properly funded.

An interim committee of the Legislature will likely propose bills to satisfy a number of needs on the state's border rivers. Some will likely follow the lead of last year's Missouri River Authority bill. Protection of bluff lands from inappropriate development is one example. Perhaps the most difficult challenge is to define options that achieve real success within the current budgetary limitations.

MISSOURI

GOVERNOR JOHN ASHCROFT:

The Department of Natural Resources' new, multi-million dollar Laboratory Services facility opened in early December, giving the Department greatly expanded capability for analytical chemical work in support of its many environmental responsibilities. The new lab will be an invaluable resource for responding to emergencies such as the pipeline spill on Christmas Eve, 1988, that dumped more than 800,000 gallons of oil into the Gasconade River, a tributary of the lower Missouri.

"Partnerships in Water Planning" was the theme of a recent conference in Missouri exploring opportunities for revenue-short state agencies to cooperate and coordinate with federal agencies and the private sector in advancing a water resources agenda. The conference, (co-sponsored by the

MISSOURI

GOV. JOHN ASHCROFT (Cont.): State Water Plan and the U.S. Soil Conservation Service), featured the dedication of a new multi-purpose dam at Cameron, Missouri, that will provide municipal water supply, conservation storage, recreation, and fish and wildlife benefits. The dam was cooperatively funded through a partnership of the City of Cameron, the U.S. Soil Conservation Service, and the Missouri Dept. of Conservation.

Jefferson City and St. Joseph, Missouri have projects in the planning stages to revitalize their riverfronts along the Missouri River. These ambitious long-range projects will require strong funding efforts before completion. The cities of St. Charles and Washington already have riverfront development projects underway to help those communities return the focus to the river after decades of neglect.Planning is underway for the ThirdMissouri River Constituency Conference, tentatively set for early April 1992 in St. Joseph, Missouri. The northwestern Missouri site will be more convenient for people in other Missouri basin states to attend. For more information on the conference, contact Jerry Vineyard at (314)368-2148.

MISSOURI BASIN TRIBES: Brenda Schilf, the tribal representative to MBSA, was elected to the Association's Executive Committee at MBSA's recent Directors' meeting last December. She will be serving as Secretary to the Association.

Ms. Schilf has been working with the Corps of Engineers to develop an Indian Policy Statement for the Corps, and to draft a position description for a Corps-employed Indian Coordinator. The Corps has completed its position descriptionfor its Indian Coordinator and plans to fill the position by April, 1992. The Corps will be working with each tribe in the Missouri basin to develop a specific policy statement which will best meet the needs of each particular tribe.

Another positive development for the Missouri basin's tribal communities is the recent decision by MBSA to support changes in Section 22 of P.L. 93-251 (Water Resources Development Act of 1974). Section 22 provides technical and planning assistance from the Corps to states. As it now stands, Indian tribes are not eligible for the assistance. At its last Directors' meeting, the Association decided to work for changes in this piece of federal legislation. Changes supported by MBSA include giving tribes access to the same assistance afforded the states.

CONFERENCE ON ZEBRA MUSSELS IN THE UPPER MISSISSIPPI RIVER SYSTEM TWIN CITIES - APRIL 2-3, 1992

The Upper Mississippi River Basin Association (UMRBA) and several governmental and private sector co-sponsors will be hosting a conference to address the problems posed by zebra mussels in the Upper Mississippi River System. The conference will be held at the Registry Hotel in Bloomington, Minnesota on April 2-3, 1992.

The conference will be structured to meet the needs of a wide variety of participants by providing the practical information that various user groups will need before zebra mussels become a major problem in the Upper Mississippi River System and the region's lakes. A plenary session will cover basic topics, including the biology of the zebra mussel, its spread and likely impacts, and alternative approaches to control.

Smaller concurrent sessions will also be held to provide more specific information on fixed facilities, vessels, and ecological concerns. Further information and registration materials may be obtained by writing or calling the UMBRA, 415 Hamm Building, 408 St. Peter Street, St. Paul, Minnesota 55102, (612)224-2880.

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P.O. Box 9193
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MBSA STAFF
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59107 (406) 542-6272 FAX: (406) 542-7585

MBSA OFFICERS:
CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
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David Pope, Director of Water Resources, Kansas Board of Agriculture
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MISSOURI BASIN STATES ASSOCIATION

P.O. BOX 9193
MISSOULA, MT. 59807
PHONE (406)542-6272
FAX NO. (406)542-7585

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APRIL 1992

MBSA DIRECTORS SUPPORT ENVIRONMENTAL WORK ON THE RIVER

The MBSA Directors met in early March to discuss many aspects of Missouri River operations. A major focus of the meeting was the President's budget request to Congress which was released at the end of January, 1992. The President's budget determines the funding level for virtually every federal agency, including those with jurisdiction in the Missouri River basin. The MBSA Directors used their time together this March to analyze the President's budget and its impact on the work and funding level of the Corps of Engineers, the Bureau of Reclamation, the U.S. Geologic Survey, and other federal agencies. The Directors agreed to support funding increases for a couple of programs with an environmental focus, including:

The Missouri River Fish and Wildlife Mitigation Program:

This project was authorized by the Water Resources Development Act of 1986. Its purpose is to mitigate losses to fish and wildlife resulting from construction and operation of the Missouri River Bank Stabilization and Navigation project which extends from Sioux City, Iowa to St. Louis, Missouri. The President's budget requested $5.6 million in construction funds for the project in fiscal year 1993. The MBSA Directors agreed to request a $5.4 million increase in funding for the project in FY 1993, bringing the total funding to $11 million.

Streambank Erosion Protection:

Congress appropriated $1.5 million in FY 1992 for the Corps of Engineers to begin work on a streambank erosion protection program authorized under Section 33 of the Water Resources Development Act of 1988. The MBSA Directors agreed to request $1.5 million in FY 1993 for this program which is of vital importance to the water quality and habitat of the critical river reaches in the upper Missouri River. No funding for the program had been requested for this program in the President's budget.

The Association members agreed to submit testimony in support of these two budget requests to the Chairs of the Energy and Water Development Subcommittees of both the House and Senate Appropriation Committees. This action represents a new initiative for the Association. It is the first time in recent years the Association members have unanimously agreed to support specific environmental enhancement work in the Basin. The MBSA Directors are committed to using the Association as a forum to identify common ground among the basin sovereigns, and to consolidate the basin's considerable political power in support of programs which benefit the basin's states and tribes. Despite the physical and political stress on the river system as we enter what appears to be our sixth year of drought, MBSA continues to identify and achieve goals shared by the basin's sovereigns. We will certainly continue our work to resolve some of the difficult main stem flow issues on the Missouri (through the Annual Operating Plan and Master Manual Review processes). But we will also be expanding our efforts in the environmental arena because a healthy, productive and sustainable environment is something we can all support.

MBSA BUSINESS NEWS

MBSA CONTINUES RIVER PLANNING ACTIVITIES:

The Association will continue to participate in the two major river planning activities in the basin. These activities include:

The 1993 Annual Operating Plan:
Last year for the first time, MBSA participated in the development of an Annual Operating Plan for the Missouri River main stem dams. The Association's role was to work closely with the staff of the Corps of Engineers to develop a set of recommendations to balance the conflicts between the need for conserving water in the upper basin reservoirs and downstream flow commitments for navigation and other uses. The Association's work proved to be effective. The Corps adopted MBSA's recommendations point-for-point, and for the first time in two years there was no new litigation filed by any party over the operation of the reservoir system.

MBSA will continue its participation in developing recommendations for River operating plans. At the Association's March, 1992 meeting, the MBSA Directors agreed on a process for developing the 1993 Annual Operating Plan. The technical committee appointed by the MBSA Directors last year will meet twice in the summer (see calendar of events). The Corps will provide a summary of the current hydrologic conditions of the basin to the committee at the first meeting in early July. Committee members will pose questions to the Corps concerning the impacts of specific adjustments to operations of the reservoir system. The Corps will present their analyses of the impacts at the second meeting scheduled for early August, and the committee will finalize a set of recommendations for the MBSA Directors to consider at their fall (1992) meeting. The directors will present their final recommendations on the 1993 Annual Operating plan to the Corps in September, 1992.

Master Manual Review:
Technically, each Annual Operating Plan for the Missouri River reservoir system falls within the parameters of the Master Water Control Manual for the Missouri River Main Stem Reservoirs; the main planning umbrella for the basin. For the past two years, the Corps has been involved in the most extensive review of the Master Manual since the document was first prepared over thirty years ago. This summer, the Corps hopes to be able to use the complex computer model they are developing to begin quantifying the economic and environmental impacts of specific adjustments to operations of the reservoir system. If no major problems with the model are encountered, the Corps could begin distributing the results of their analyses to state and federal agencies by late summer, 1992. The MBSA Directors will meet in the fall to identify flaws in the Corps' data and analyses before the Corps finalizes the information for public review. Participating in the meting will be the members of the four technical committees appointed by the MBSA Directors to work with the Corps in the Master Manual review process. The results of the technical analysis of the Corps' modeling will be reported in the fall issue of the Missouri River Report.

FEDERAL REPORTS

CORPS OF ENGINEERS

NEW MRD COMMANDER:
The Missouri River Division has a new commander. Colonel John E. Schaufelberger assumed command from Col. "Sandy" Davis on February 26, 1992. Col. Schaufelberger is a native of Boise, Idaho and holds a Bachelors Degree in Electrical Engineering, a Masters Degree in Civil Engineering, and a PhD in Civil Engineering. His career includes previous assignments with staff and troops in Vietnam, Germany, Saudi Arabia, and the United States.

He has held positions as Deputy District Engineer (King Khalid Military City), District Engineer Fort Worth), and Deputy Chief of Staff for Engineering (U.S. Army Europe). Col. Schaufelberger is a registered professional engineer in Virginia.

* * * * *

Budget Items

The Administration has requested the following amounts for activities in the Missouri River Basin:

(1)	Flood Damage Prevention Studies (11 projects)	$1,095,000
(2)	Special Studies (3 projects)	$365,000
(3)	Project Review Studies (2 projects)	$258,000
(4)	Engineering and Design (6 projects)	$1,098,000
(5)	Construction (7 projects)	$26,216,000
(6)	Navigation (2 projects)	$6,395,000
(7)	Flood Control at Reservoirs (25 projects)	$26,922,000
(8)	Channel Improvement and Inspection (2 projects)	$744,000
(9)	Operation & Maintenance of Multiple Purpose Power Producing Facilities (9 projects)	$51,386,000

The Division budget request will be supplemented by an allocation of funds reserved by headquarters for such activities as:

Flood Plain Management Services	$7,400,000 reserved
Hydrologic Studies	$440,000
Emergency Streambank Protection	$6,500,000
Flood Control	$23,000,00
Navigation/Navigation Mitigation	$4,500,000
Project Modifications for Improvements to the Environment	$10,000,000
Planning Assistance to the States	$ 2,850,000

* * * * *

Water Resources Development Act (WRDA) of 1992:

The administrative legislative package containing the proposed Water Resources Development Act (WRDA) of 1993 was submitted to the House Public Works and Transportation Committee and the Senate Environment and Public Works Committee on March 11, 1992. It includes authorization to construct 24 projects, none of which are in the Missouri River basin, and numerous other

projects proposed in the 25 sections of the draft bill. The WRDA of 1992 proposes such programs as cost-sharing for the management of recreation facilities, recreation user fees, cost-sharing of environmental projects, projects for improvement of the environment,and alternative means for resolution of interstate water disputes.

ENVIRONMENTAL PROTECTION AGENCY

The President's 1993 budget for the Agency reflects a 5% increase over the 1992 operating levels. The work year ceiling would increase 2% over 1992. The budget focus is on particular geographic areas where the Agency has taken an ecologically based, multi-media approach to risk reduction and environmental cleanup. These areas include the Great Lakes, Chesapeake Bay, Mexican Border, Gulf of Mexico and the Caribbean.

Other areas of focus for 1993 are meeting requirements of recently enacted legislation such as the Clean Air and Oil Pollution Act; an increased role in international activities; pollution prevention initiatives; direct hazardous waste site cleanup coupled with an enforcement-first strategy against potentially responsible parties; and, enhancing state, tribal and local entities to administer federal programs.

The budget also contains $470 million for special direct grant assistance to six major coastal cities and for projects along the Mexican border to assist in construction of wastewater treatment facilities. Two billion dollars would be provided nationally for State Revolving Fund capitalization grants for wastewater treatment projects. Approximately $532 million is requested for state and local program grants.

Appropriations Subcommittee hearings for the Agency's budget began March 10 in the House and are scheduled for March 26 in the Senate. Schedules for full committee and floor action are not set.

U.S. GEOLOGICAL SURVEY

In the FY 1993 President's Proposed Budget sent to Congress, the U.S. Geological Survey Water Resources Division is funded for $169,763,000. This represents a reduction from the FY 1992 enacted budget of 7.3%. If the National Water Quality Assessment funding increase is not considered, the reduction from the enacted FY 1992 budget to the proposed FY 1993 budget is 9.5%. The Federal/State Cooperative Program is reduced 4.3%. Congress will probably alter the President's Budget before passage.

There have been numerous Geological Survey personnel changes within the Missouri Basin States. New District Chiefs are: Colorado, David Lystrom; Minnesota, George Garklavs; Missouri, Marvin Sherrill; and Wyoming, Barney Lewis. The South Dakota District Chief position is now open and will be filled in Rapid City instead of Huron, South Dakota. The next anticipated phase of the agriculture chemical investigations in the Mid-continent area, presently being conducted by the Geological Survey, will involve sampling for agricultural chemicals in reservoirs. The Missouri Basin States located in this area include Iowa, and parts of South Dakota, Nebraska, Kansas, Missouri, and Minnesota.

BUREAU OF INDIAN AFFAIRS

Two compacts settling Indian water right claims for the Fort Peck and Northern Cheyenne Reservations have been submitted for Congressional ratification.

Senator Max Baucus (D-MT) introduced S. 1602 on July 31, 1991, to ratify the compact between the Assinboine and Sioux Tribes (on the Fort Peck Reservation) and the State of Montana. The Fort Peck compact was ratified by the Tribes, the State and Federal executives in 1985. Its ratification by Congress would allow the tribes the opportunity for full use and enjoyment of the water marketing provisions of the compact. Consideration of the bill has been put on hold by Senators of several lower basin states who want to give their respective states more time to review the legislation.

Senator Baucus and Senator Conrad Burns (R-MT), introduced S. 1607, while Representatives Pat Williams (D-MT) and Ron Marlenee (R-MT) introduced companion bills (H.R. 3155 and 3139, respectively) for ratification of the state of Montana's compact with the Northern Cheyenne Tribe. Federal executives have not yet ratified the Northern Cheyenne compact, which was approved by the tribe and state of Montana in 1991. Federal support has been withheld because financing for the rehabilitation and enlargement of the Tongue River Dam - the cornerstone of the compact - conflicts with guidelines for federal participation in Indian water rights settlement agreements. These guidelines were developed and published by the Department of the Interior's Working Group on Indian Water Right Settlements. The financing controversy centers on the question of whether the Federal Government should subsidize $11.5 million of the state's $16.5 million contribution to the storage project with an interest free loan. Hearings on S. 1607, which increases the Tribal Development Fund and provides an interest free loan from the Tribe to the State, have been held before the Senate Select Committee on Indian Affairs.

WESTERN AREA POWER ADMINISTRATION

The drought in the Missouri Basin appears to be continuing into its sixth consecutive year. The optimistic outlook brought on by the above average snowpack in the early Fall of 1991 was dimmed by below normal precipitation during most of the rest of the winter since then. Current forecasts indicate that calendar year (CY) 1992 runoff will be about 22 million acre feet (MAF); 88 percent of normal. This compares to actual experience in CY 1989, CY 1990, & CY 1991 of 17.7 MAF, 17.2 & 22.4 MAF respectively.

Six out of the last seven water years have been below average, including the last five consecutive years. The cumulative effect of this drought, when compared to what would have occurred in a median period, is a total loss of about 35 MAF. This is equivalent to the total amount of water that flows past Sioux City, Iowa in 1.4 median or average water years. The associated lost energy production and revenue have been significant. The current total main stem storage forecast for March 1, 1992, is 45.4 MAF. This is 3.9 MAF greater than the actual storage on March 1, 1991, but still 13.6 MAF less than the ideal (full system) target of 59.0 MAF. The all-time minimum since the system first filled was 40.8 MAF in January 1991.

The 1992 navigation season began on April 1, 1992. As the year progresses, the length of the season will be adjusted as the actual runoff becomes more evident. If projections are upper quartile or better, the season will end November 30; if median, 2 weeks earlier; if lower quartile, 4 weeks earlier; and if lower decile, 5 weeks earlier.

One obvious impact of the drought has been a reduction of hydrogeneration. Corps energy production for CY 1991 was only

7.0 billion kWh. This is also the projection for 1992. A normal or average year would produce nearly 10.0 billion kWh. Because of this reduction in energy generation, the Western Area Power Administration (Western) is expecting to purchase about 1.8 billion kWh from other sources in FY 1992, at a cost of approximately $25 million, in order to meet firm power contract commitments to its customers. Most of these transactions will occur during the 1991-1992 winter, non-navigation, season.

Last year's purchase requirements were similar and, even if water conditions do improve, significant purchases will be necessary for the next few years because refilling reservoirs will take priority over releases for power generation. These additional costs must be recovered from the power users and are a major factor in increases in the cost of Pick-Sloan Missouri Basin Program firm power.

Corps generating restrictions, caused by threatened and/or endangered species, have also had a negative impact on power generation. These will result in an estimated loss of about 130 MW in the summer of 1992, and about 90 MW of actual loss in the summer of 1991. The potential loss in the summer of 1992 is 140 MW. These losses, combined with low reservoir elevations as a result of the drought, prompted Western to acquire from other sources, 50 MW of capacity in the summer of 1990 and 95 MW each in the summers of 1991 and 1992.

STATE REPORTS

MONTANA

GOVERNOR STAN STEPHENS:

The State Water Plan Advisory Council has published two draft sections of the plan which integrate water quality and quantity management; one focusing on surface water and the other on ground water. The department will hold public meetings at eight locations throughout the state the week of April 20 to distribute draft sections, answer questions, and receive comments. The Council will review public comments at its May 20 meeting.

Preliminary recommendations include amending existing laws to add water quality as a criteria for evaluating water use permits or change of use applications. The criteria would consider adverse impacts to prior appropriators and water quality standards, and they would consider the ability of discharge permit holder(s) to satisfy effluent limitations.

Other key recommendations included in the section extend who may petition for basin closures and controlled ground water areas. One change would allow the Departments of Health and Environmental Sciences (DHES) and Fish, Wildlife and Parks to petition Montana's Dept. of Natural Resources and Conservation (DNRC) to close basins on the basis of water quality concerns. In addition, state and local agencies would be permitted to petition the Board of Natural Resources and Conservation to establish a controlled ground water area. The respective departments and boards would retain the authority to determine if such petitions are justified.

Several options for administrative coordination are still under consideration. Consultation between DHES and DNRC is one avenue being explored to ensure both water quality and quantity are adequately considered in water allocation decisions and permits for sources of water pollution. Merging all water quality regulatory functions into one department is another option that would enhance coordination. A final alternative is to combine all water allocation operations and water quality responsibilities into one agency.

Draft plan sections are available from the Department of Natural Resources and Conservation, Water Resources Division, 1520 E. Sixth Avenue, Helena, Montana 59620. Preliminary comments may be submitted in writing to the same address by May 1, 1992.

WYOMING

GOVERNOR MIKE SULLIVAN:

Walton Rights Claims Being Accepted on Wind River Indian Reservation:

On January 21, 1992, Fifth Judicial Dist. Court Judge Hartman in Worland, Wyoming, issued an order approving a set of procedures for processing Walton claims in conjunction with the Wind River Indian reservation in Wyoming. Notice has been given through newspapers of general circulation in the Wind River-Bighorn River Basin in Wyoming to locate both Indian and non-Indian successors of Indian allottees who are entitled to a reserved water right of July 3, 1868. The boundaries of the Reservation as of that date will be used to determine the validity of the claim.

Claims are to be made to the Court. The Wyoming State Engineer's Office has been named as staff to provide technical assistance to the Walton claimants. Claims will be accepted until September 28, 1992. The State Engineer's Office will have 6 months after receiving the claim for processing and submitting findings of fact back to the court.

IOWA

GOVERNOR TERRY BRANSTAD:

Iowa's legislative session continues to be driven by financial issues. One of the key topics for the natural resources area will be the amount of funding that can be allotted to the Resource Enhancement and Protection (REAP) Program. REAP provides funding for both state and local governments to invest in the acquisition and development of a variety of natural resource areas as well as maintenance of existing areas and protection of the land by conservation measures.

The Legislature continues to be interested in the fate of the Missouri River as evidenced by proposed resolutions which call for funding for the Missouri River Mitigation Program and recommend that state leaders actively pursue the state's interests in the current Master Manual review and related activities.

MISSOURI

GOVERNOR JOHN ASHCROFT:

Preliminary plans are complete for the Third Missouri River Constituency Conference, scheduled for May 14-15 in St. Joseph, Missouri. Co-sponsored by the Missouri Department of Natural Resources and the City of St. Joseph, the conference is the third in a series of meetings designed to expand the awareness of Missouri River issues among the downstream constituency.

The conference will begin with a pre-meeting field excursion for participants to see first-hand how a "typical" Missouri River municipality addresses issues such as water-supply, power plant cooling, port operation, riverfront development, and water quality. St. Joseph will showcase its ambitious plan for redevelopment of the riverfront that is expected to revitalize the city's commitment to, and reliance upon, the Missouri River. The second day of the conference will feature a complete update on all Missouri River issues, and a special forum on the views and concerns of cities and towns along the river. Anyone and everyone interested in the Missouri River is invited to attend; call Charles Hays (314) 751-2927, or Sharon Krause (314) 368-2190, for complete conference details.

* * * * *

Missouri Atty. General William Webster has announced settlements with Shell Pipe Line Corp. and Texaco Pipeline Inc., under which the two companies will pay $7 million to the state of Missouri. The payments are compensation for natural resource damages resulting from a pipeline break in 1988 on a tributary of the Missouri River. The settlement is the largest

environmental cash recovery in the history of the state, and is to be paid over a seven-year period.

The pipeline break occurred on Christmas Eve, allowing an estimated 863,000 gallons of crude oil to spill into a tributary of the Gasconade River, then into the Missouri, and on into the Mississippi at St. Louis. Emergency response crews from state agencies, pipeline company employees, and contractors hired by the companies worked through the holidays and beyond to contain and clean up the spill, but not before some of the oil reached St. Louis, causing concern over water-supply intakes and industrial processes.

Beneficiaries of the settlement include school districts in seven counties affected by the spill, who will share $1.4 million over a five-year period. The departments of Natural Resources and Conservation will receive over $5 million, to be used for a variety of natural resource enhancement projects over the next seven years. Some of the money will be paid to the state's General Revenue fund, with additional amounts as reimbursement for legal expenses, and for direct costs of cleanup.

Shell reportedly spent some $14 million in cleanup costs. The $7million is in addition and represents compensation to the state for environmental damages and response costs. Shell also paid $600,000 for studies to assess the impact of the spill on fish and wildlife and the environment. The study showed the long-term effects should be minimal, thanks to quick and thorough response and careful monitoring by state agencies.

KANSAS

GOVERNOR JOAN FINNEY:

WETLANDS PROTECTION ORDER:

Earlier this year, MBSA Director and Chief Engineer of the Kansas Board of Agriculture's Division of Water Resources, David Pope, issued an order establishing a groundwater use control area in one of the nation's most significant wetlands. The Walnut Creek region of Barton, Rush, and Ness Counties (which lies outside the Missouri Basin) provides water to the Cheyenne Bottoms, an area which environmental groups say is vital to the well-being of migratory birds. The Cheyenne Bottoms consists of about 20,000 acres. Each spring, about 15,000 visitors arrive at the Bottoms to watch birds stop en route from South America to the Arctic Circle. A diversion canal built on Walnut Creek in the early 1950's helps supply water to the Cheyenne Bottoms to the benefit of the migratory waterfowl. In recent years, however, irrigation use from the hydrologically connected alluvial aquifer has greatly restricted the amount of water Walnut Creek supplies to the Bottoms.

Pope's order specifies special corrective control provisions to maintain supplies of ground and surface water to the area. "The measures" according to Pope "are designed to get the hydrological system back into balance so a dependable supply of water will be available over the long term for the benefit of all users." Popes's order restricts the use of groundwater, cutting some agricultural uses in the area by nearly two thirds; requires all water rights holders in the area to install and maintain water meters to document their usage; establishes a system of 5 year (rather than 1 year) water allocations so as to provide more flexibility for groundwater users; and imposes other water conservation measures. The diversion canal on Walnut Creek was constructed and used before irrigation became a major use of water in the Creek. Therefore the order, hailed by the environmental community as a precedent-setting victory for wildlife "is compatible with basic water law which is based on seniority of rights" according to Pope.

NEWSCLIPS

LITIGATION UPDATE:

In February, 1991, the states of Montana, North Dakota and South Dakota filed suit against the Corps in the 9th Circuit Court challenging the Corps' policy of categorizing a project's (the upstream Missouri River reservoirs, specifically) authorized purposes as "primary" or "secondary." The trial was scheduled to begin in June, 1992, but the date was recently postponed until the end of calendar year 1992. Meanwhile, attorneys for the Corps and the states of Montana, North Dakota, and South Dakota have been negotiating in an attempt to settle the suit out of court. The negotiations have been occurring over the past month, but at the time of this writing, the talks have failed to produce a settlement.

GAO REPORT:

In October of 1989, Senator Kent Conrad (D-ND) and Congressman Byron Dorgan (D-ND) asked the General Accounting Office (GAO) to investigate the Corps of Engineers' drought management practices for the Missouri River. In January of this year, the GAO released their report which concluded, among other things, that the Corps can administratively change the operating priority for recreation (now considered by the Corps to be a "secondary" Missouri River project purpose) without Congressional approval. The report, which has no binding effect on the current litigation, was hailed as a victory by reservoir-based recreation interests and roundly criticized by the lower basin states.

CALENDAR OF EVENTS

April 15, 1992	Public meeting on Corps' operation of the Missouri River	Pierre, SD
April 16, 1992	Public meeting on the Corps' operation of the Missouri River	Jefferson City, MO
May 14-15, 1992	Third Missouri River Constituency Conference	St. Joseph, MO
June 29-30, 1992	MBSA Directors meeting	Denver, CO
July 8-9, 1992	MBSA Technical Subcommittee meets to discuss 1993 AOP	Omaha, NE
August 3-4, 1992	MBSA Technical Subcommittee meets to finalize recommendations to MBSA Directors on 1993 AOP	Pierre, SD
August 4-6, 1992	Missouri River Natural Resource Committee meets	Pierre, SD

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Missoula, Montana 59807

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MBSA STAFF
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59107 (406) 542-6272 FAX: (406) 542-7585

MBSA OFFICERS::
CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
VICE-CHAIRMAN: G. Tracy Mehan, III, Director, Missouri Dept. of Natural Resources
SECRETARY: Brenda Schilf, Missouri Basin Tribes, Billings, MT
TREASURER: Karen Barclay Fagg, Director, MT. Dept. of Natural Res.& Conservation

OTHER STATE DIRECTORS:
Jeff Fassett, WY State Engineer
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Robert E. Roberts, Secretary, S.D. Dept. of Environment & Natural Res.
David Pope, Director of Water Resources, Kansas Board of Agriculture
Jim Brown, State Water Coordinator, Iowa Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Brenda Schilf, Missouri Basin Tribes, Billings, MT

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
Loyd Waite, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT -Maritime Admin.

MISSOURI BASIN STATES ASSOCIATION

P.O. BOX 9193
MISSOULA, MT. 59807
PHONE (406)542-6272
FAX NO. (406)542-7585

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THE MISSOURI RIVER REPORT

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MISSOURI RIVER BASIN ASSOCIATION

P.O. BOX 9193 MISSOULA, MONTANA 59807 PHONE 406-542-6272

JANUARY 1993

WE'VE CHANGED OUR NAME!

For over two years, the Association has had a voting member of its Board of Directors who represents tribal perspectives on Missouri River water issues. To reflect the Association's expanded representation and perspective, the Directors voted last October to change the name of the Association from the Missouri Basin States Association to the MISSOURI RIVER BASIN ASSOCIATION. In addition to the nine voting Directors of the Association (eight states, one tribal), eight representatives of various federal agencies operating in the basin serve on the Board in an advisory (non-voting) capacity. Despite the name change, the Association will continue with its current focus. The focus includes coordinating river management planning activities - specifically developing recommendations for the Missouri River Annual Operating Plans and participating in the Master Manual Review Process.

MRBA BUSINESS NEWS

ASSOCIATION TACKLES FULL AGENDAS AT LAST TWO MEETINGS

DIRECTORS AGREE ON 1993 ANNUAL OPERATING PLAN:

In the first of two meetings of the Missouri River Basin Association this fall, the Directors agreed on recommendations for the 1993 Annual Operating Plan for the Missouri River.

This summer, an MRBA-appointed technical subcommittee held two meetings with the Corps of Engineers to a) learn about the current hydrologic conditions of the Missouri basin and b) develop a range of management options for the MRBA Directors to consider at their upcoming meeting. Members of the Technical Committee, who include water resources specialists from the Missouri Basin Tribes and eight states, focused on three key management issues: the volume of (1992-1993) winter flows in the River, the length of the 1993 navigation season, and the volume of navigation season flows.

After developing 11 different operating scenarios, the Technical Committee Members narrowed the recommendations for the MRBA Directors to three.

The first option was virtually identical to the 1992 Annual Operating Plan. It called for minimum winter releases, following the Master Manual in terms of flow volumes for navigation, and up to a five week early closing of the navigation season under severe drought conditions. The second option offered somewhat more support for navigation by calling for a strict interpretation of the Master Manual. It differed from the first option in that it would result in slightly longer navigation seasons under moderate to severe drought conditions.

The third option called for additional water conservation measures. It was virtually the same plan as option one except that it also included an automatic 3 week delay in the beginning of the 1993 navigation season.

The second meeting of the MRBA Technical Committee was held in conjunction with a meeting of the Missouri River Natural Resources Committee (MRNRC). The MRNRC is an autonomous group, not directly associated with MRBA. While the MRBA Technical Committee produces Annual Operating Plan recommendations based on hydrologic considerations, the MRNRC produces Operating Plan recommendations based primarily on fish and wildlife concerns. This year, the MRNRC recommended a "natural hydrograph"

alternative which called for reduced flows in August and September in order to approximate the natural (pre-dam) flows in the River system.

Armed with these four options to consider, the MRBA Directors settled on a single recommendation to the Corps. The Directors voted 8-1 last September (Missouri casting the sole vote of opposition) to recommend the Corps adopt the first option for their draft 1993 Operating Plan. A few weeks after the Association submitted its recommendation, the Corps released its draft 1993 Plan (it has since been published in final form). Once again, the Corps adopted the Association's recommendations virtually point-for-point.

In the past two years, the Association's involvement in the River planning process has reduced tensions among the basin's states and enhanced the state-tribal-federal partnership in the Missouri basin. The conflict and litigation often spawned by the release of the Corps' draft Operating Plans have been replaced by a spirit of cooperation and accomplishment. Water is still scarce as the drought continues its grip on the basin. But the Association's cooperative planning efforts (and the Corps' willingness to give us a larger role) has helped the basin through some very difficult times.

DIRECTORS REVIEW PRELIMINARY RESULTS OF CORPS' MASTER MANUAL STUDY:

The Directors held a second fall meeting in mid-October to study the preliminary results of the Corps' comprehensive review of the Master Water Control Manual for the Missouri River. The Master Manual was first published in 1960 (seven years before the reservoir system first filled) and last revised in 1979. At the urging of the upper basin states, the Corps initiated the update of the Master Manual over two years ago. Preliminary results of the Corps' $10 million+ study were presented to the MRBA Directors at the October meeting by Col. Schaufelberger, Commander of the Corps' Missouri River Division.

Col. Schaufelberger discussed the impacts of various modifications to Missouri system operations (raising minimum pool levels, varying the timing and amount of releases from the reservoirs, etc.) on the economic and environmental values of the River. Specific economic values of the River system include flood control, navigation, hydropower production, water supply, and recreation. Environmental values include river native fish habitat, river cold water fish habitat, river warm water fish habitat, reservoir cold water fish habitat, reservoir warm/cool water fish production, tern and plover habitat, historic property values, wetland habitat, and riparian habitat.

After the states, tribes and federal agencies (other than the Corps) responded to the Corps' presentation, the Col. suggested several criteria the Corps would use to select the specific alternatives to be evaluated in more detail in an upcoming Environmental Impact Statement (EIS). The Col. suggested seven economic criteria, five environmental criteria, and seven combined economic and environmental criteria.

The next information available on the Master Manual Study will be the publication of the draft EIS. Publication of the draft was originally scheduled for January, 1993. However, the complexity of the study and other factors (such as distractions caused by the Corps' reorganization plan) will likely result in postponement of the draft.

FEDERAL REPORTS

CORPS OF ENGINEERS ANNOUNCES REORGANIZATION PLANS:

On November 19th, Army officials announced plans to streamline and reorganize the Army Corps of Engineers. The plan is to be carried out in essentially two phases. In fiscal year 1993, the plan calls for reorganization at the headquarters and division levels of the Corps. Eleven current division offices will be consolidated into six division with offices in Boston, MA (NORTH EAST); Atlanta, GA (SOUTHEAST); Vicksburg, MS (SOUTH CENTRAL); Portland, OR (WESTERN); Honolulu, HI (PACIFIC); and Cincinnati, OH (NORTH CENTRAL).

Commanders of the new divisions will have prepared implementation plans by January 25, 1993. These plans will include phasing of the functional moves and transfers of work. After February 1, 1993, employees of closing divisions will remain at their current locations, but they will report to one of the remaining divisions while their organizations are phased down.

Nancy P. Dorn, Assistant Secretary of the Army for Civil Works, said in announcing the reorganization plan that it is a product of "a long effort within the Corps, and outside consultations with the Congress and the interested public. It's a plan which represents good government". In 1988, the Corps instituted a reevaluation of its missions, goals, and organization. In 1990, Congress directed the Corps to begin looking at conceptual models for reorganization and restructuring, and last year, Congress appropriated $12 million in the 1993 Water and Power Appropriations Act to begin implementation of the reorganization plan.

Changes in the Districts are to be implemented in fiscal year 1994 if funds are made available. No district offices are scheduled to be closed according to the plan. The districts will continue to carry out civil works programs, program management, regulatory, operations, and construction functions and deal directly with the public. The plan also calls for creation of 15 Technical Centers, one of which will be located at the Omaha District Office. The Technical Centers will perform all of the Corps' planning, design, and technical review functions and most of its real estate functions as well.

Implementation of the reorganization plan may not be entirely smooth, according to the Western Resources Wrap-Up (WRW). The list of Congressmen reported by WRW to be concerned about specific aspects of the plan include such heavy hitters as Sen. Daniel Patrick Moynihan, D-NY; Sen. Alfonse D'Amato, R-NY; House Speaker Thomas Foley, D-WA; House Democratic Leader Richard Gephardt, D-MO; Sen. Sam Nunn, D-GA; and Sen. Robert Byrd, D-W. Va.

The map on the following page shows the location of the proposed new division alignment. Of note is the fact that the North Central Division, which contains all the Missouri River basin, includes nearly twice as many district offices as any other division.

How the Corps reorganization will affect their work in the Missouri River basin remains to be seen. However, Col. Schaufelberger has assured the Missouri River Basin Association that he plans to continue to oversee the Master Manual Review process, at least through the publication of the Draft Environmental Impact Statement early in calendar year 1993.

STATE REPORTS

NORTH DAKOTA
GOVERNOR-ELECT ED SCHAFER:

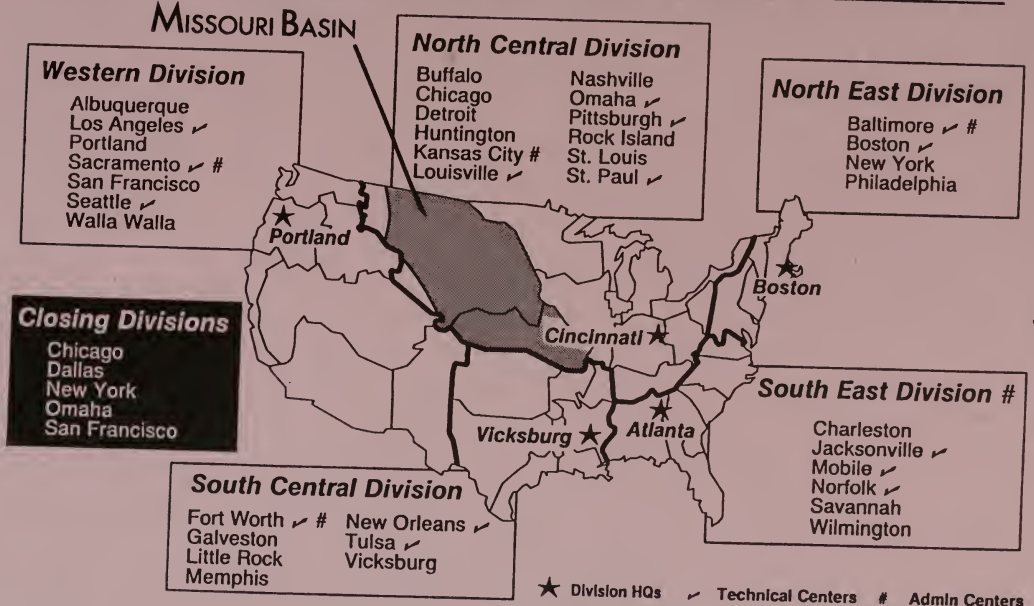
On October 28th, a workshop was held at the North Dakota State Water Commission concentrating on Pick-Sloan hydropower generation, transmission, pricing, and marketing. Its purpose was to help educate and inform water and utility managers, decision-makers, and other interested persons on preference power and some of the lesser understood aspects of the Pick-Sloan plan.

Dick Schirk, Assistant Area Manager for Water and Power Marketing, Western Area Power Administration (WAPA), discussed the criteria used for WAPA'S power repayment study. The study is conducted annually to determine the projected market price of the energy produced by Pick-Sloan facilities. Income from power sales is used to repay only the power investment portions of Pick-Sloan facilities (turbines, generators, transmission lines, etc.). These investment expenditures in the Pick-Sloan project area total $1.4 billion. About 60 percent of that total has been repaid with sales of project-generated hydropower.

Duane Sveum, Chief of the Reservoir Control Center, US Army Corps of Engineers, briefed the group on how execution of the Annual Operating Plan affects reservoir levels and river flows throughout the Missouri River Basin. He addressed the needs of the least tern and piping plover and assured the group that nesting habitat for the two threatened and endangered bird species would be protected. The Corps is also experimenting with an artificial floating habitat that would not be susceptible to flooding.

Other topics included the effects low reservoir water levels have on hydropower production. First, there is significantly less water passing through the turbines. Second, reduced lake levels decrease the efficiency, therefore less electricity is produced per acre-foot of water than what would be if the reservoirs were full. The six main stem dams supply low cost hydropower to electrical utilities and other distributors both inside and outside the Missouri River basin. Normally, about $45 million worth of surplus power is produced in the system. In 1992, $33 million of power was purchased to fulfill contracts that could not be met because of low water levels and reduced releases. The purchased power usually produced by coal-fired power plants, is more expensive and has greater environmental impacts. Continued low reservoir levels will necessitate further purchases of power and will ultimately affect electrical rates. Those who attended the workshop considered it worthwhile and informative. By concentrating on only the power portion of the massive Pick-Sloan Missouri River Basin Plan, a better understanding was achieved.

Restructured Divisions with Districts



Note: Pacific Ocean Division with the Alaska and Honolulu Districts are retained but not shown

Source: Army Corps of Engineers

MISSOURI RIVER REPORT

SOUTH DAKOTA
GOVERNOR GEORGE S. MICKELSON:

The Reclamation Projects Authorization and Adjustment Act of 1992 (H.R. 429), recently signed by President Bush, contained a provision to permit the construction of advance features of the Mni Wiconi project and authorized the Mid-Dakota Rural Water System and the Lake Andes-Wagner/Marty II Irrigation Project.

The Mni Wiconi project will provide rural domestic water to a large part of Southwestern South Dakota. The advance features address emergency conditions in the White Clay and Wakpamni Districts of the Pine Ridge Reservation.

The 1993 Energy and Water Development Act appropriated $1.466 million for the construction of these interim water supply facilities and $3.534 million to complete the pre-construction planning efforts on the full project. The White Clay and Wakpamni advance construction is scheduled to start next spring.

The Mid-Dakota system will supply water to an estimated 30,000 people in 12 central South Dakota counties. The Lake Andes-Wagner/Marty III Irrigation Project includes development of 48,000 acres in southeast South Dakota following the successful completion of a 5,000 acre irrigation research study.

South Dakota now has authorization for three major water projects which could initiate construction in 1993. The Mni Wiconi Project was authorized in 1988.

Congress still must appropriate funds to begin construction of the two projects, estimated to cost $330 million.

On the state level, officials continue to prepare to introduce a permanent funding proposal for the state's water projects to the 1993 South Dakota Legislature.

On November 3, South Dakota voters rejected a law passed by the Legislature which approved the"Lonetree" large-scale waste facility. Much of the waste accepted at the landfill would have come from out-of-state. Voters also passed an initiated measure that adds additional regulations to large-scale gold and silver surface mining operations. The measure prohibits issuing permits to a current mining operation unless it conducts certain reclamation activities on an acre-per-acre basis. It also prohibits issuing permits to a new mining operation which would disturb more than 320 acres of land, unless it conducts ceratin reclamation activities on an acre-per-acre basis.

Voters approved a constitutional amendment that limits the number of terms of office that may be held by U.S. Senators and Representatives, state senators, and representatives, and constitutional officers. Voters rejected initiated measures that would have repealed video lottery games.

KANSAS
GOVERNOR JOAN FINNEY:

Water supplies within the lower Republican basin in Kansas continue to be an issue as reported in the last Missouri River Report. That report stated that the ongoing shortage of water at the Harlan County project in Nebraska resulted in Kansas irrigators receiving less than half of their full allocation again in 1992, and in the Corps of Engineers initiating an extensive study of the future operations of the project. Additionally, as a result of the short water supply, diversion of water under approximately 100 junior surface water and groundwater appropriations in the Republican River valley were not allowed for the first half of 1992 to satisfy state established minimum desirable streamflows.

Although generous summer rainfalls on the lower part of the basin have temporarily provided a reprieve, demands for water supply from the basin will continue. The lower Republican River flows into Milford Reservoir, a major Corps of Engineers facility in Kansas. The Public Wholesale Water Supply District No. 10, which represents 15 central Kansas municipalities including the City of Wichita, has requested permission to negotiate a water marketing agreement with the State of Kansas to purchase water from State controlled storage from Milford Reservoir. If a water marketing contract is approved, the requirements of the Kansas Water Transfer Act would require additional extensive consideration of benefits; future needs of the applicant; water conservation; current and future needs of other users; and other impacts of approving or denying the proposed transfer. Thus it appears the Republican River basin will continue to be a focus of concern as irrigation, municipal, industrial and other water users continue to look to the basin for current and future water supply.

On the political front, Republicans increased their majority in the State Senate and regained control of the House of Representatives this year after losing it by a narrow margin during the 1990 election. In the federal elections, Bob Dole retained his seat in the U.S.Senate by a large margin. In the U.S. House the state lost one seat as a result of the 1990 census. All four incumbents in the re-aligned districts' retained their seats. The fifth incumbent was defeated in a primary race for one of the remaining positions.

NEBRASKA
GOVERNOR E. BENJAMIN NELSON:

Senator Loren Schmit, long recognized as one of the Legislature's key senators for water matters, lost his seat in a highly contested race. Among his accomplishments, Schmit is credited with creating the Department of Environmental Quality.

Also departing the Legislature is Senator Rod Johnson. Johnson is the current chairman of the Natural Resources Committee. He was elected to the Public Service Commission. Johnson's remaining term will be filled by appointment of Governor Nelson.

The election also resulted in voter approval of a state lottery. It's estimated some $10 million per year for environmental projects will be generated. The recently created Environmental Trust will expend half of the funds for providing critical wildlife habitat, improving water quality, developing recycling markets and reducing the volume and toxicity of wastes. The other half would go to political subdivisions to be used for closing old landfills and open dumps.

IOWA
GOVERNOR TERRY BRANSTAD:

The November election in Iowa had considerable impact on how the state is governed. In the Congress, Iowa had to face the loss of one district to reapportionment. While there were some tight races, the incumbents emerged victorious with one exception. The exception was the race which pitted two incumbents for the one remaining seat. Congressmen David Nagle and Jim Nussle vied for the spot, with Nussle the eventual winner. In the Senate, Charles Grassley (R) was re-elected and Senator Tom Harkin (D) is not up for re-election until 1996.

The State House shifted to Republican Party controls as well by a margin of 51 to 49. While their advantage is numerically small, the real difference is the change in leadership in all key positions.

With all of the new faces, about one third of the 150 members of the General Assembly will be starting their first term, and changes in leadership will surely have a major impact on how the legislature functions and the way that the state's challenges such as budget limitations will be met. In all, an uncertain but interesting time.

MISSOURI
GOVERNOR-ELECT MEL CARNAHAN:

Reflecting the national election results, Democratic candidates made a clean sweep of all major elective offices in Missouri. Mel Carnahan, the current Lieutenant Governor, defeated Republican Attorney General Bill Webster for Governor, ending 12 years of Republican administrations. Two-term Governor John Ashcroft by law could not serve more than two consecutive four-year terms.

The new Lieutenant Governor is Roger Wilson, a State Senator who defeated Republican State Auditor Margaret Kelly. Kelly still has two years remaining in her term as State Auditor, so she will be the only Republican among the top elective offices in Missouri, reversing the situation before the election, in which Carnahan was the only Democrat holding a top office. Former State Senator Jay Nixon will replace Bill Webster as Attorney General, and a political newcomer, Juli Moriary, will become State Treasurer. Bob Holden, a former state representative and currently a staff aide to U.S. Rep. Richard Gephardt, was elected Secretary of State.

In Congressional elections, two incumbents were defeated. First-term Rep. Joan Kelly Horn of St. Louis was defeated by Republican Jim Talent, a State Representative. In the Kansas City area, veteran Republican Rep. Tom Coleman was defeated by popular State Senator Pat Danner, the mother of State Senator Steve Danner, who represents an adjacent Senatorial District.

In other news, the Eagle Bluffs managed wetland area, on the Missouri River floodplain northwest of Jefferson City, nears operational status. For the project, treated municipal effluent from the City of Columbia is to be used to create artificial wetlands for migratory birds and other fish and wildlife. In addition to treated effluent, an intake on the Missouri River will allow the Department of Conservation to blend river water and effluent through a pumping station called a "junction box." An extensive system of pumps and monitoring stations will allow wetland managers to try many different management scenarios.

Because of its large size and pioneering approach to artificial wetlands management, the Eagle Bluffs project is drawing a great deal of interest as an innovative and highly practical way of improving waste management while restoring the wetland base. Missouri has lost an estimated 90% of its original wetlands.

ELECTION SUMMARY

November third saw the election of three new Governors, one new U.S. Senator, and three new members of the U.S. House of Representatives. Three basin states (Montana, Kansas, and Iowa) lost one Representative each as a result of the 1990 census. The election results are presented in the table. How the elections will impact policies in the Missouri River Basin remain to be seen. The Missouri River Report will continue to provide updated information on the election-related changes.

State:	Governor:	U.S. Senate:	U.S. House of Rep.:	State Sen.:	State House:
Montana	**Marc Racicot (R)**	Max Baucus (D) Conrad Burns (R)	Pat Williams (D)	Dem. (30) Rep. (20)	Dem.(47) Rep. (53)
N. Dakota	**Ed Schafer (R)**	**Byron Dorgon (D)** Kent Conrad (D)	**Earl Pomeroy (D)**	Dem. (25) Rep. (24)	Dem. (33) Rep. (65)
S. Dakota	George Mickelson (R)	Larry Pressler (R) Tom Daschle (D)	Tim Johnson (D)	Dem. (20) Rep. (15)	Dem. (29) Rep. (41)
Wyoming	Mike Sullivan (D)	Alan Simpson (R) Malcolm Wallop (R)	Craig Thomas (R)	Dem. (10) Rep. (20)	Dem. (19) Rep. (41)
Iowa	Terry Branstad (D)	Charles Grassley (R) Tom Harkin (D)	Jim Leach (R) Jim Nussle (R) Neal Smith (D) Jim Lightfoot (R) Fred Grandy (R)	Dem. (26) Rep. (24)	Dem. (49) Rep. (51)
Kansas	Joan Finney (D)	Bob Dole (R) Nancy Kassebaum (R)	Pat Roberts (R) Jim Slattery (D) Jan Meyers (R) Dan Glickman (D)	Dem. (14) Rep. (26)	Dem. (59) Rep. (66)
Nebraska	Ben Nelson (D)	James Exon (D) Robert Kerry (D)	Doug Bereuter (R) Peter Hoagland (D) Bill Barrett (R	Nonpartisan/Unicameral Leg.	
Missouri	**Mel Carnahan (D)**	John Danforth (R) Kit Bond (R)	William Clay (D) **James Talent (R)** Richard Gephardt (D) Ike Skelton (D) Alan Wheat (D) **Pat Danner (D)** Mel Hancock (R) Bill Emerson (R) Harold Volkmer (D)	Dem. (20) Rep. (13)	Dem. (100) Rep. (63)

NORTH DAKOTA GOVERNOR WINS AWARD

Last month, North Dakota Governor George Sinner was selected by the National Water Resources Association as the recipient of the NWRA's 1992 Water Statesman of the Year award. The award is the highest honor bestowed by the Association, and is given in recognition of national leadership in the field of water resources management and conservation.

Governor Sinner has long been a leader in water resource issues, having chaired the Western Governor's Assn. Committee on Agriculture and Rural Development, and the North Dakota State Water Commission. Governor Sinner, whose term expires in January, 1993, did not run for reelection this year. His name has been mentioned for a possible Cabinet-Level post with the Clinton Administration.

MRBA STAFF
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59807 (406) 542-6272 FAX: (406) 542-7585

MRBA OFFICERS::
CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
VICE-CHAIRMAN: Jim Brown, Iowa Dept. of Natural Resources
SECRETARY: Mike Jess, Nebraska Dept. of Natural Resources
TREASURER: Jeff Fassett, WY State Engineer

OTHER STATE DIRECTORS:
Ron Kucera, Missouri Dept. of Natural Resources
Robert E. Roberts, Secretary, S.D. Dept. of Environment & Natural Res.
David Pope, Director of Water Resources, Kansas Board of Agriculture
Karen Barclay Fagg, Dir. Montana Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Brenda Schilf, Missouri Basin Tribes, Billings, MT

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
William Kastner, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT -Maritime Administration

MISSOURI RIVER BASIN ASSOCIATION

P.O. BOX 9193
MISSOULA, MT. 59807
PHONE (406)542-6272
FAX NO. (406)542-7585

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THE OFFICIAL PUBLICATION OF THE
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APRIL 1993

MRBA BUSINESS NEWS

DIRECTORS PLAN FOR PROTECTION OF BASIN'S NATURAL RESOURCES:

MRBA Presents Testimony on Basinwide Environmental Projects to Congressional Subcommittees

For the past several years, the Missouri River Basin Association has been pursuing a collaborative approach to the basin's water management strategies. Despite the volatility of the issues in the basin, we have forged agreements among the Basin's sovereign entities on operating plans for two straight years. Even in the throes of a severe drought, our efforts helped improve the working relationships among the states and between the states, tribes and federal agencies.

That spirit of cooperation is beginning to pay dividends for the Basin's water managers, residents, and fish and wildlife resources. At a March conference call meeting, the Association's Directors agreed upon a menu of programs designed to protect and enhance the Missouri Basin's natural resources. Novel as it may seem, people in the Dakotas, for example, are supporting congressional funding for projects that benefit Iowa: Missouri is supporting Montana projects, and Missouri Basin states are calling for federal agencies to treat the Basin's Indian Tribes as sovereign entities.

Dave Sprynczynatyk, President of MRBA, testified on March 29 and 30 before U.S. House and Senate Appropriations Subcommittees on behalf of the projects the Directors agreed to support. A summary of the projects included in the testimony follows. Anyone wishing to obtain copies of our testimony can request them by calling (406) 542-6272, or writing to:

Richard Opper, Executive Director
MRBA
P.O. Box 9193
Missoula, MT 59807

Missouri River Fish and Wildlife Mitigation Program:
The Missouri River Fish and Wildlife Program was authorized by Congress in the Water Resources Development Act of 1986. The program's purpose is to mitigate fish and wildlife losses resulting from construction and operation of the Missouri River Bank Stabilization and Navigation Project which channelized the Missouri River from Sioux City, Iowa to near St. Louis, Missouri. Last year, Congress appropriated $7.6 million for the Mitigation Program. This year, the Missouri River Basin Association asked Congress to appropriate $12 million for the program in Fiscal Year 1994, plus the unexpended funds appropriated for the program in Fiscal Year 1993. The Association believes that this level of funding will enable the Corps of Engineers to achieve considerable progress in enhancing fish and wildlife habitat in the basin.

Biodiversity Trust in South Dakota:
Last year, Congress authorized the establishment of a Biodiversity Trust in the state of South Dakota in Title 32 of the Reclamation Projects and Adjustment Act of 1992 (P.L. 101-575.) The purpose of the Trust is to protect or restore the best examples of South Dakota's biological diversity, its rare species, exemplary examples of the State's plant and animal communities and large scale natural ecosystems. The Trust is authorized to receive up to $12 million in federal contributions. The Directors of the Missouri River Basin Association recognize that protection and enhancement of South Dakota's natural ecosystems will benefit the water fowl and other wildlife populations throughout the Basin. the Association asked Congress to appropriate funds of $1.5 million for the South Dakota Biological Diversity Trust in Fiscal Year 1994.

Missouri River Bank Stabilization:
This project was authorized under Section 33 of the Water Resources Development Act of 1988. For Fiscal Year 1992 and Fiscal Year 1993, Congress appropriated $1.5 million for the Corps of Engineers to repair existing projects, and to continue stabilizing unprotected banks of the Missouri River in the free-flowing river reaches of the River between the major reservoirs. This year, the Missouri River Basin Association also requested an appropriation of $1.5 million for the program in Fiscal Year 1994 plus the unexpended funds appropriated for the program in Fiscal Year 1992 and Fiscal Year 1993.

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U.S. Geological Survey Cooperative Program:
In recent years, cost sharing requirements and other factors have made it very expensive for the Missouri Basin's states and tribes to work with the U.S. Geological Survey through the state-federal Cooperative program. Also, for the past several years, the President's budget has called for significant cuts in the Cooperative Program. We urged the House Appropriations Subcommittee on Interior and Related Agencies to approve an appropriation of at least $63.5 million in Fiscal Year 1994 for the U.S. Geological Survey Cooperative Program, the same amount appropriated for the program for Fiscal Year 1993.

This degree of collaboration is a far cry from the litigation we have seen over the past several years. Unfortunately, diplomatic success in the water policy arena does not receive the same degree of publicity as does conflict. Last December, for example, a group of water specialists developed a list of water policy recommendations for President Clinton at a meeting near Long's Peak, Colorado. Among their many suggestions, the Long's Peak Group urged the incoming President to convene a summit to explore the formation of basin organizations in both the Colorado and Missouri River Basins to include affected states, tribes and other interests in water management decisions. With their recommendations, the Long's Peak Group failed to recognize that the kind of organization they are promoting already exists. And the organization (the Missouri River Basin Association) has acquired an impressive list of accomplishments over the past three years.

Letter to Secretary Babbitt:
To help interpret and publicize our work, the Directors agreed to send Bruce Babbitt, the new Secretary of the Interior, an introductory letter about the work of the Missouri River Basin Association. Secretary Babbitt's record in public life, his testimony at the confirmation hearings, and the appointments he has made within the Department of Interior since his confirmation, indicate his commitment to a cooperative approach to resolving natural resource issues. Naturally, we believed it would be appropriate to let the Secretary know that our Association has been putting his principles into practice on a grand scale for the past several years. In addition to providing some background for the Association and a catalogue of our recent accomplishments, the letter offered the following requests of the Secretary:

- We asked the Secretary to support interjurisdictional River Basin management activities - the kind of approaches MRBA has used to forge agreements on Missouri River Operation Plans the past several years
- We urged the Secretary to encourage continued involvement of federal agencies (the ones within the Department of Interior) with our Association, and
- We asked the Secretary to allow the U.S.A. Geological Survey to place a very high priority on water projects in order to provide water managers with timely, accurate water data.

MASTER MANUAL REVIEW:
Congress Intervenes in the Review

The Master Water Control Manual (Master Manual) is considered by some to be the "Bible" of Missouri River management. The Master Manual was developed by the Corps of Engineers over 30 years ago to provide a framework for the overall management of the reservoir system on the River. The document establishes priorities for uses of the River system, and each Annual Operating Plan is supposed to fall under the broad umbrella of the Master Manual.

At the urging of the upstream states' Governors, the Corps of Engineers agreed in 1990 to undertake an extensive review of the Master Manual. The last review of the document by the Corps was completed in 1979. After three years of gathering data, developing and testing analytical models, and analyzing results, the multi-million dollar study is drawing to a close (see report from the Corps of Engineers in the Federal Report Section of this issue.) The Master Manual Review is a high-stakes game. The study may result in no significant changes in the operation of the River system. Yet it may result in changes in the minimum pool level of the reservoir system, changes in the length of ,or flows levels during the navigation season, or changes in the flow patterns to protect endangered species. At this point in the process, no one knows what the Corps will propose in the draft Environmental Impact Statement.

Congress has joined the growing list of those concerned with the results of the study. In fact, 71 U.S. Congressmen and Senators from a dozen lower Missouri and Mississippi River states sent a letter concerning the Master Manual Review to President Clinton on February 17th of this year. The letter asked President Clinton to set up a special task force to review the changes the Corps is considering in the Master Manual Review to the operation of the Missouri River system. In response, Congressmen and Senators from the Upper Missouri Basin States sent President Clinton a letter of their own, asking him to let the Corps' review process continue to completion.

The Missouri River Basin Association has been remarkably successful at

SOUTH DAKOTA GOVERNOR KILLED IN CRASH

On Monday, April 19, a plane carrying South Dakota Governor George Mickelson and seven other people crashed in eastern Iowa after reporting engine failure. All eight people aboard were killed in the crash. The other victims were Roger Hainje, Director of the Sioux Falls Development Foundation; state Economic Development Commissioner Roland Dolly; state Energy Policy Commissioner Ron Reed; Sioux Falls banker Dave Birkeland; Angus Anson of Northern States Power Company; and the two pilots, Ron Becker and Dave Hansen.

Mickelson, 52, was first elected Governor in 1986. He was elected to another four-year term in 1990. He also served six years in the South Dakota House of Representatives, where he was Speaker in 1979-1980. His father, George T. Mickelson, was also a prominent political figure in South Dakota, having served as Governor of the State from 1947-1951.

Governor Mickelson was a passionate spokesperson for the upper basin states on issues concerning the Missouri River. He organized meetings of the Basin's Governors to discuss Missouri River issues. He also played a key role in initiating the Corps' review of the Master Water Control Manual. It is a tragedy he did not live to see the results of the review he worked so hard to initiate.

Manual for the Missouri River and its upstream reservoirs. In its study, the Corps has considered over 250 scenarios for managing the Missouri River system, nearly all of which assume higher reservoir levels than prescribed in the current Master Manual. Many of those alternatives threaten to lower water levels in the Missouri to a point where navigation would be imperiled. This would have serious consequences for the entire Mississippi River system.

The Missouri River is the largest

interested agencies before the Corps issues a draft environmental impact statement to update the Master Manual.

We appreciate your attention to this matter. The integrity of the inland waterways system is at stake."
(Signed by 71 members of Congress)

"Dear Mr. President:

Since 1987, the Missouri River Basin has suffered from one of the most severe droughts in recent history. The large storage reservoirs on the main stem of the Missouri River in Montana,

various uses of the system. Intervention may jeopardize this process.

In summary, all that the Missouri River upper basin states seek is a fair and impartial review of the current management of the River. We believe we have made an excellent start to such a review; we respectfully request that you decline the invitation of downstream interests to intervene in this process."
(Signed by nine members of Congress)

NEWSCLIPS

LITIGATION UPDATE:

(From the Weekly Newsletter of the Western States Water Council, 2/26/93)

A Montana federal district court has dismissed a suit filed by South Dakota, North Dakota, and Montana against the Army Corps of Engineers which asserted that the Corps had improperly assigned downstream uses of Missouri River reservoir waters higher priority than recreation and fish and wildlife uses in upstream states,

South Dakota...et al v. Bornhoft, No. Cv. 91-26-JDS-BLG (Feb. 3, 1993). The states asserted that as a result of the Corps' erroneous interpretation and...unlawfully static priorities...set forth in the Master Manual and annually implement[ed] in the...operating plan..." the Corps was mismanaging the Missouri River. The plaintiffs sought an

order from the court requiring development of a plan of operation that "reflects contemporary uses and needs of the basin."

The court found that the Corps had recently changed its official policy, giving consideration to all uses in the basin. It noted, "[d]uring the course of

water policy recommendations for

Department of Interior since his confirmation, indicate his commitment

water data.

MASTER MANUAL REVIEW:
Congress Intervenes in the Review

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At the urging of the upstream states' Governors, the Corps of Engineers agreed in 1990 to undertake an extensive review of the Master Manual. The last review of the document by the Corps was completed in 1979. After three years of gathering data, developing and testing analytical models, and analyzing results, the multi-million dollar study is drawing to a close (see report from the Corps of Engineers in the Federal Report Section of this issue.) The Master Manual Review is a high-stakes game. The study may result in no significant changes in the operation of the River system. Yet it may result in changes in the minimum pool level of the reservoir system, changes in the length of ,or flows levels during the navigation season, or changes in the flow patterns to protect endangered species. At this point in the process, no one knows what the Corps will propose in the draft Environmental Impact Statement.

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The Missouri River Basin Association has been remarkably successful at

resolving water-related issues in the Missouri Basin over the past several years. Through open dialogue and negotiations, we have developed agreements among our states and tribes on Annual Operating Plans and legislative agendas. As a general rule, we believe these face-to-face meetings provide a better forum for resolving conflicts than either Congress or the Courts. However, we are committed to providing education to citizens of the Basin on significant regional water-related activities. Therefore, we have reprinted the following excerpts of both letters for the benefit of our readers.

"Dear Mr. President:

As members of Congress interested in the free flow of commerce on the Mississippi River system, we are writing to express our concerns about a serious threat to the integrity of the system...

The Corps of Engineers is currently wrapping up a three-year review and update of the Master Water Control Manual for the Missouri River and its upstream reservoirs. In its study, the Corps has considered over 250 scenarios for managing the Missouri River system, nearly all of which assume higher reservoir levels than prescribed in the current Master Manual. Many of those alternatives threaten to lower water levels in the Missouri to a point where navigation would be imperiled. This would have serious consequences for the entire Mississippi River system.

The Missouri River is the largest tributary of the Mississippi, accounting for nearly half of the water in the Mississippi at St. Louis. In June of 1988, when the Upper Mississippi experienced serious drought conditions, the Missouri provided as much as 65 percent of the water in the Mississippi. During that drought, about 180 blockages occurred over a span of 900 miles. The economic toll was disastrous, as barge rates tripled and remained at inflated rates. If it weren't for strong flows from the Missouri, conditions would have been dramatically worse...

Because changes to this document could have serious repercussions for our transportation network and for midwestern agriculture, we urge you to assign an inter-agency group, consisting of at least the Secretaries of Defense, Transportation, and Agriculture, to consider the policy choices involved. We ask that you direct those Secretaries to review the Corp's work to date, and that you ensure agreement between the interested agencies before the Corps issues a draft environmental impact statement to update the Master Manual.

We appreciate your attention to this matter. The integrity of the inland waterways system is at stake."
(Signed by 71 members of Congress)

"Dear Mr. President:

Since 1987, the Missouri River Basin has suffered from one of the most severe droughts in recent history. The large storage reservoirs on the main stem of the Missouri River in Montana, North Dakota and South Dakota are at their lowest levels since 1967 when the system first filled. These unprecedented conditions have brought significant adverse impacts to the many users of the Missouri River. Unfortunately, the upper basin states have incurred a disproportionate share of these impacts...

You are now being asked to intervene in the Master Manual review process. Lower basin states and Mississippi River interests have asked you to direct a special, Cabinet-level review of the Corps of Engineers' work on the Manual, including development of a draft Environmental Impact Statement (EIS)...

The EIS for the study is scheduled for release in late April 1993 for public comment. We ask that you let the process that has been established by the Corps of Engineers and the Missouri River Basin states continue to completion. The Corps has pledged that the process will be thorough and will result in an unbiased analysis of the costs and benefits attributable to the various uses of the system. Intervention may jeopardize this process.

In summary, all that the Missouri River upper basin states seek is a fair and impartial review of the current management of the River. We believe we have made an excellent start to such a review; we respectfully request that you decline the invitation of downstream interests to intervene in this process."
(Signed by nine members of Congress)

NEWSCLIPS

LITIGATION UPDATE:

(From the Weekly Newsletter of the Western States Water Council, 2/26/93)

A Montana federal district court has dismissed a suit filed by South Dakota, North Dakota, and Montana against the Army Corps of Engineers which asserted that the Corps had improperly assigned downstream uses of Missouri River reservoir waters higher priority than recreation and fish and wildlife uses in upstream states,

South Dakota...et al v. Bornhoft, No. Cv. 91-26-JDS-BLG (Feb. 3, 1993). The states asserted that as a result of the Corps' erroneous interpretation and...unlawfully static priorities...set forth in the Master Manual and annually implement[ed] in the...operating plan..." the Corps was mismanaging the Missouri River. The plaintiffs sought an order from the court requiring development of a plan of operation that "reflects contemporary uses and needs of the basin."

The court found that the Corps had recently changed its official policy, giving consideration to all uses in the basin. It noted, "[d]uring the course of

the present Master Manual review and the preparation of an environmental impact statement, 'all existing uses of the system will be considered in determining whether revisions to the current water control plan should be made.'...[T]he Corps has said that, during this review process, all uses are to receive equal consideration." Thus, the court concluded, "the present action is appropriate for dismissal because the issues raised in the complaint are no longer alive." Although the states had sought a stay until the Master Manual review is complete, they view the dismissed legal action as successful because of the Corps' apparent change of policy regarding the importance of upstream uses in basin management.

DROUGHT UPDATE:
(From the Corps of Engineers)

Once again, mountain snowpack is too light to alleviate the drought conditions which have persisted for six years in the Missouri basin.

Mountain snowpack reports on 15 March indicate that snowpack accumulations continue to decline. The snowpack water equivalents above Fort Peck Dam that were 85 percent on 1 March decreased to 79 percent on the 15th; in the reach from Fort Peck to Garrison the snowpack that was 75 percent of normal on 1 March was 72 percent on the 15th. Plains snowpack over most of the basin has been melted except in eastern South Dakota and northwest Iowa.

The system storage was 44.7 MAF, as of the 15th of March. The March 15th storage was 1.3 MAF lower than 1 year ago and 2.5 MAF greater than the record low for this date set in 1991. Since March 15, system storage has increased considerably. Stoarge now nearly equals last year's levels.

FEDERAL APPOINTMENTS WITHIN THE CLINTON ADMINISTRATION:
(From Various Sources)

Secretary of Interior.....Bruce Babbitt
Environmental Protection Agency Administrator.....Carol Browner
Commissioner of (Bureau of)Reclamation.....Daniel Beard
Asst. Secretary for Fish, Wildlife and Parks.....George Frampton, Jr.
Interior Solicitor.....John Leshy
Director of Bureau of Land Management.....Jim Baca

STATE AND TRIBAL REPORTS

MISSOURI BASIN TRIBES DEVELOP TRIBAL WATER RIGHTS COALITION

In January of 1993, the Mni Sose Coalition became an active non-profit corporation established to address all aspects of Indian water rights issues in the Missouri River basin.

Presently, the coalition has the following 19 Tribes as members: Great Sioux Nation Tribes - Oglala, Standing Rock, Rosebud, Devils Lake, Sisseton-Wahpeton, Cheyenne River, Yankton, Winnebago, Lower Brule, Crow Creek and Santee Sioux Tribes, Rocky Boy Chippewa-Cree, Three Affiliated Tribes, Turtle Mountain Chippewa, Ponca Tribe, Omaha Tribe, Kickapoo of Kansas, Prairie Band of Potawatami and Sac and Fox of Missouri. Each Tribe, in voting to join the Coalition, designated one Tribal representative as their Board member.

The primary purpose of the Coalition is to educate its membership on the nature, character and extent of their Indian Winters Reserved rights to the use of MIssouri River water and tributary streams, including groundwater that underlies, borders of traverses their respective reservations. The Coalition will assist member Tribes in developing plans to protect, preserve, utilize, administer, manage and develop their water resources for the economic and social benefit of all present and future Tribal members.

When requested, the Coalition will act as an advocate for Tribes on specific water issues.

Historically, court decisions, lack of Federal funding and technical support, and restrictive Federal water policies have prevented Tribes from developing and implementing realistic and feasible

water projects for their reservations. Therefore, a consensus was established between Federal and Tribal officials at a recent meeting in Washington, D.C. that there is an urgent need for both the Administration and Congress to reaffirm and fulfill its trust obligations to Indian Tribes in the protection and preservation of their valuable Indian Winters reserved water rights.

To clarify the Federal role in Indian water issues, the Tribal representatives determined that the Federal Administration, acting through the Secretary of Interior, should reaffirm its commitment to the precepts of the government-to-government relationship, Indian self-determination, and Tribal economic independence, by developing a policy statement that:

1. Provides independent Tribal Legal Counsel on Water Rights for both litigation and negotiation of water rights claims;
2. Repeals the criteria and procedures for water settlements developed by OMB and DOI with Tribal consultation;
3. Allows Tribes to directly contract expert witnesses and data collection for both litigation and negotiations;
4. Creates independent legal counsel for the BIA to eliminate potential conflicts of interest between the Departments of Justice and within the Interior Department's Solicitors Office and other Bureaus;
5. Continues support of working groups on water settlements and eliminates inherent delays in the process;
6. Appropriates sufficient funding to implement the water policy, including the creation of separate Indian water settlement and development funds;
7. Budgets monies to include costs incurred prior to and as a result of water settlement agreements;
8. Supports Tribal and off-reservation water marketing;
9. Supports the measurement of Indian Winters Rights based on a Permanent Homeland concept as well as Practicably Irrigable Acreage (PIA);
10. Supports establishment of a process for Tribes, as preference customers, to participate in and receive an allocation of low-cost hydropower generated at six-mainstem Missouri River dams;
11. Initiates the process to lift the Interior Department's Moratorium on approval of Tribal Water Codes, and
12. Supports amending the McCarran Amendment to prohibit adjudication of Indian Water Rights in state court proceedings.

On March 18, 1993, after reviewing 27 applications for the Executive Director position and interviewing 4 finalists, the coalition Board of Directors selected Daryl Wright, a Chippewa-Cree from the Rocky Boy Reservation, as Executive Director and Everett Iron Eyes, a Hunkpapa from the Standing Rock Sioux Indian Reservation, as Assistant Director.

As Executive Director, Mr. Wright has the responsibility for implementing Board directives and developing plans to address the Coalition's broad water agenda. Mr. Wright brings to the Coalition many years of administrative expertise, with over 13 years of P.L. 93-638 contract administration and supervising inter-disciplinary teams of legal and technical staff and consultants.

Mr. Wright, prior to assuming his new duties, coordinated the development of a comprehensive Rocky Boy Water Rights Settlement package that is now under active review and pending. His knowledge of water issues and years of experience with local, regional and national levels of government will contribute to the overall progress of the Coalition.

Mr. Iron Eyes, as Assistant Director, will conduct follow-up and coordinate Coalition water issues. Mr. Iron Eyes previously served as Water Administrator in the Standing Rock Sioux Tribe's Department of Water and Natural Resources. He has over 14 years of water resources and water rights experience including extensive background in contract administration and natural resource issues.

For further information about the coalition, you may write or telephone the Coalition at the following address and numbers:

Mni Sose Inter-Tribal Water Rights Coalition, Inc.
P.O. Box 226 or 818 East Andrew St.
Rapid City, South Dakota 57701
Office (605) 343-6054
Telefax (605) 343-4722
Toll Free 1-800-342-0664

MONTANA
GOVERNOR MARC RACICOT:

Governor Racicot appointed Mark Simonich to head the State's Department of Natural Resources and Conservation. Simonich was born in Salt Lake City in 1955. He worked as a forester throughout Montana and eastern Idaho until 1989, when he was employed as a Legislative Assistant to Montana's U.S. Senator Conrad Burns. During his four years with Senator Burns, Simonich covered all natural resource, public lands, and environmental issues for the Senator. Simonich was appointed by Governor Racicot in January, 1993 to serve as Director of the Montana Department of Natural Resources and Conservation. Simonich replaces Karen Barclay Fagg as the Department Director, and as Montana's representative to the Missouri River Basin Association.

WYOMING
GOVERNOR MIKE SULLIVAN:

The 1993 General Session of the Wyoming Legislature adjourned on March 5. Budget concerns were paramount during the session, driven by escalating costs in education, state payments for Medicare and Medicaid and by social service programs. Few water related bills were considered by the Legislature. The program of the Wyoming Water Development Commission was reviewed in two bills; Senate Bill 47 dealt with the construction portion and House Bill 92 dealt with the planning program.

The total construction program was appropriated $51,251,600. Included in that total was $20,400,000 for Sandstone Dam which is a new dam envisioned for the Little Snake River basin in south central Wyoming. The Little Snake River is tributary to the Colorado River system. The total cost of Sandstone Dam is estimated to be approximately $30 million. Also included in the bill was $26,416,100 for seven new construction projects and $11,719,500 for rehabilitation construction.

The planning program includes $850,000 for Level I projects which are those in the reconnaissance phase. Level II is the feasibility phase and $4,328,000 was appropriated for new projects and $590,000 for rehabilitation projects. Included in the Level II funding was $450,000 for the Greybull Valley Dam which is located in the Wind-Bighorn River basin.

NORTH DAKOTA
GOVERNOR ED SCHAFER:

Mid-Dakota Study Team Choice:
Mix a dozen or so water specialists in a variety of different fields and you have the recipe chosen by the Garrison Diversion Conservancy District to determine how best to connect the McClusky and New Rockford Canals. The current 22-mile gap between the two canals means that North Dakota cannot move Missouri River water to the Red River Basin to meet water supply needs there or to provide the water needed to stabilize the level of Devils Lake.

The special study team, which became fully staffed late in October, 1992, consisted of staff members from several state agencies and a consulting engineering firm. Team members had expertise in planning, engineering, water quality, environmental sciences, fisheries, wildlife management, economics, and cultural resources. A State Water Commission staff member served as team leader.

Ten alternatives were evaluated and compared, all of which are capable of supplying the water needed to stabilize Devils Lake and to meet other project needs. Alternatives included canals, pipelines, and reservoirs. The study team's recommendation to the study management oversight group and to the Garrison Diversion Conservancy District was a modified version of the Mid Dakota/Sheyenne Lake Alternative. The recommended alternative was similar to an earlier (1992) version of the Mid Dakota/Sheyenne Lake proposal, but it differed in several important ways. Three significant changes involved relocating the outlet back to a Hudson Bay alignment, moving the Germantown Dike, and lengthening the bypass around the Sheyenne Lake Refuge.

Factors influencing the team's choice included consideration of total project costs, operation and maintenance requirements, reduced social impacts, and the opportunity to enhance management of the Sheyenne Wildlife Refuge and associated wetlands.

The study report was submitted to the Bureau of Reclamation on March 1, 1993 for consideration in their Sykeston Canal Alternative Study. An executive summary of the report has been provided to members of the 1993 North Dakota Legislative Assembly, and it is anticipated that the report will serve as a useful reference document in future congressional committee testimony.

SOUTH DAKOTA
GOVERNOR GEORGE S. MICKELSON:

State Secures Water Project Funding:
After years of debate but little action, South Dakota finally has found a permanent funding source for its water projects.

The state Legislature on March 23, the final day of the 40-day session, approved a water funding plan that will fund water projects, large and small, throughout South Dakota. The plan, which uses revenues from a variety of state sources, would raise $6.5 million for water development for Fiscal Year 1994 and about $8 million every year thereafter.

The legislation means the state will finally have a permanent funding source for water development and will be able to pay for its share of the water projects.

Passage of this bill ends a nine-month effort by Governor George S. Mickelson, the state Department of Environmental and Natural Resources (DENR), state legislators, water advocates , and others to find a permanent funding source for water.

Public participation was crucial to this issue and was used to develop the proposal.

Robert E. Roberts, secretary of the state Department of Environmental and Natural Resources (DENR), testified before two Congressional Committees on water development March 29-30 in Washington, D.C.

Secretary Roberts discussed South Dakota water issues before the Senate and House Subcommittees on Energy and Water Development. Secretary Roberts told the committees about approval of a permanent funding plan for water development by the South Dakota Legislature, which means the state can now pay its share for water projects. Secretary Roberts also said two major South Dakota projects which have received federal funding, the Mni Wiconi and Mid-Dakota Rural Water Systems, will break ground this year.

NEBRASKA
GOVERNOR BEN NELSON:

A bill to allow granting water rights to municipalities relying upon wells or other facilities designed to induce recharges from flowing streams is the hottest water topic in the 1993 Legislative Session. LB 301 initially received lively debate and has been completely rewritten twice. Its sponsor, senator Chris Beutler from Lincoln, has spent countless hours attempting to forge a coalition among urban and agricultural interests. As February ended, Beutler's success (or lack of it) could not yet be determined.

This winter's precipitation has resulted in a mixed-bag forecast for the state. In most locations snow accumulations have exceeded long-term averages. Water users in the Platte River Valley, however, look at below-average snow pack in the Rock Mountains as a barometer predicting less than adequate supplies for the sixth consecutive year. A very cold February ended with most streams in the state still ice covered. With the onset of spring and the likelihood of rapid melting, an increase in ice jam flooding potential is feared.

MISSOURI
GOVERNOR MEL CARNAHAN:

(From The River Register, newsletter of the Upper Mississippi River Basin Association)

Newly elected Missouri Governor Mel Carnahan has named David Shorr as Director of the Missouri Department of Natural Resources. Before being tapped by Governor Carnahan to fill the Director's position, Shorr was head of the DNR's Division of Environmental Quality. He has degrees in law, urban planning, and environmental sciences. Prior to joining Missouri DNR in 1990, Shorr worked in Ohio as an attorney for a sewer district and as an environmental planner for an engineering and consulting firm. He has indicated that one of his top priorities as Director will be to foster a cooperative relationship with the business community to assist the private sector in complying with environmental laws. Shorr replaces Ron Kucera, who had served as the DNR's Acting Director since Tracy Mehan resigned as Director last summer. Kucera is remaining with the DNR as its Director for Intergovernmental Cooperation. Shorr has been named as Missouri's representative to the Missouri River Basin Association.

FEDERAL REPORTS:

CORPS OF ENGINEERS DELAYS RELEASE OF DRAFT EIS:

A thorough technical review of the preliminary findings of the study of the corps of Engineers' Master Manual for the operation of the Missouri River by the states, federal agencies and Indian tribes participating in the effort will delay the planned April public release of the document. The review was prompted by extensive comments received on the initial evaluation report.

"I believe this additional technical review will improve the quality of the draft environmental impact statement (EIS) that will be released to the public for review and comment," said Col. John Schaufelberger, Missouri River Division Engineer. "The technical participation, cooperation, and input by the representatives of the basin governors, the various Indian tribes, and many federal agencies has been outstanding. This step will improve the quality of a tool that is critical to a thorough analysis of the benefits and impacts of alternative ways to manage the main stem projects." The review will culminate in a meeting of the agencies and tribes this summer to discuss any outstanding technical issues before the information is circulated for public review and comment. Unless more data collection or analysis is required, the draft EIS should be available for distribution late this winter.

CORPS REORGANIZATION ON HOLD:

Secretary of Defense Les Aspin has placed a hold on implementation of the Army Corps of Engineers reorganization plan. The plan was developed under the Bush administration and was scheduled to begin on February 1, 1993. The plan involved the elimination of five Corps Divisions (including the Missouri River Division), and substantial restructuring of the district offices (see the January, 1993 Missouri River Report.) Secretary Aspin's hold on the plan will allow the Clinton Administration to review the plan developed by their predecessors. The hold on the plan is indefinite, and no schedule for the review has been announced.

MRBA STAFF
Richard H. Opper, Executive Director
P.O. Box 9193, Missoula, MT 59807 (406) 542-6272 FAX: (406) 542-7585

MRBA OFFICERS::
CHAIRMAN: Dave Sprynczynatyk, North Dakota State Engineer
VICE-CHAIRMAN: Jim Brown, Iowa Dept. of Natural Resources
SECRETARY: Mike Jess, Nebraska Dept. of Natural Resources
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David Pope, Water Resources, Kansas Board of Agriculture
Mark Simonich, Montana Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Darryl Wright, Mni Sose Tribal Water Rights Coalition

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William Kastner, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT -Maritime Administration

MISSOURI RIVER BASIN ASSOCIATION

P.O. BOX 9193
MISSOULA, MT. 59807
PHONE (406)542-6272
FAX NO. (406)542-7585

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The Missouri River Report

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P.O. BOX 9193 MISSOULA, MONTANA 59807 PHONE 406-542-6272
SEPTEMBER 1993

Floods prompt review of flood-plain management

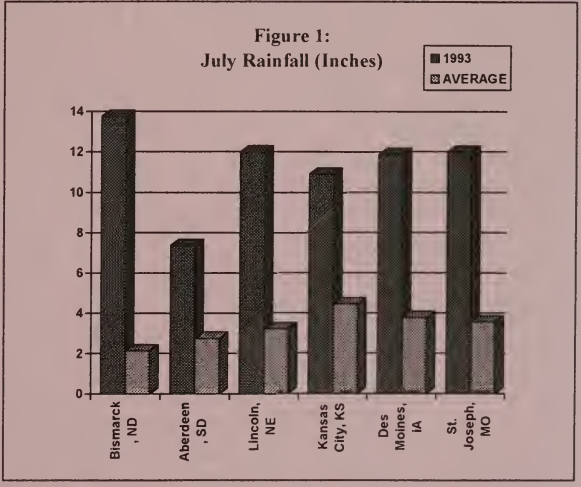
By Susan Risland

This summer's devastating floods demonstrated both strengths and weaknesses of current flood control strategy for the Missouri River basin. Although the Missouri and Mississippi River levee system protected some areas, high water still caused substantial damage throughout both basins. Despite the fact that the Corps virtually shut off releases from the Missouri River's reservoirs, downstream rains and tributary inflows destroyed many of the agricultural levees along the river. In the aftermath of the disaster, officials are debating some old questions about the role of flood plains in river management.

Record-breaking July precipitation led to the big flood, which came at the end of a 14-month extended cold, wet spell throughout the basin. Bismarck, North Dakota, saw about six times its normal precipitation that month (Figure 1). In South Dakota, the statewide average rainfall of 5.65" in July was more than double the normal average of 2.58", breaking a record set in 1890. By the end of July, precipitation totals in most of South Dakota were about equal to normal totals for an entire year. In the lower part of the Missouri basin, three to four times the normal amount of rain fell in Nebraska, Iowa, Kansas, and Missouri during July.

On the bright side, the extra precipitation helped replenish reservoirs that had become depleted during a five-year dry spell (Figure 2). As of September 1, total system storage measured 57.0 MAF, 12.0 MAF more than last year's figure, and only 3.1 MAF below the 1967-1992 average for that date. At Oahe, the multipurpose pool has been completely refilled and occupies 19.2 percent of the annual flood control zone. The multipurpose pools at Fort Peck and Garrison have filled to 89 and 99 percent, respectively. Fort Peck is 13.8 feet higher than it was one year ago, Garrison has gained 13.6 feet in elevation, and Oahe is 20 feet higher than last year.

Figure 1:
July Rainfall (Inches)



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Although the River's crest at many cities was comparable to the floods of 1984 and 1952 (Figure 3), the deluge of 1993 managed to do an extraordinary amount of damage. One reason for the extensive damage was the duration of the flood crest. Soil that would normally absorb much of the runoff became so saturated from the incessant rains that geysers actually erupted from it. Likewise, levees built to contain the river for a short time grew waterlogged and began to sag as the days dragged by and the water failed to recede. To reduce possible wave damage to the levees, much of the Missouri River was closed to commercial navigation during the worst part of the flooding. On August 20, the lower 185 miles of the river were re-opened to navigation, and the entire river was open by the end of August.

FIGURE 2: RESERVOIR ELEVATION (IN FEET) AS OF SEPTEMBER 1

	NORMAL	1993	LOW SINCE 1987
Fort Peck Reservoir	2236.9	2226.0	2208.7
Garrison Reservoir	1840.9	1837.1	1815.0
Oahe Reservoir	1604.0	1610.4	1580.7

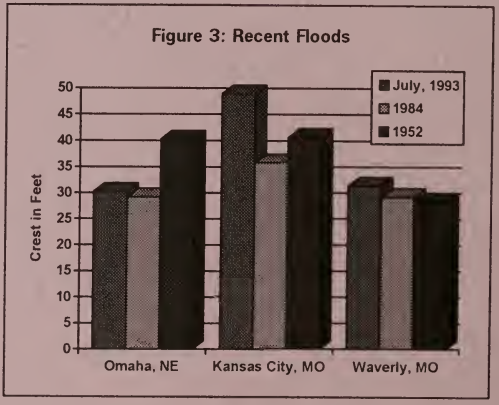
The levee system and bank stabilization may have actually contributed to the destruction in some areas, since water tends to rush through constricted passages faster than it would move if it were allowed to spill over nearby acreage. In addition, the levees helped encourage development in the old floodplain. When the levees failed, the river inundated buildings, farm houses, cemeteries, and other structures located between the levees and the old river bluffs.

During July, the Army Corps of Engineers alleviated some flood damage by reducing discharges from upstream reservoirs. At the height of the flood, the Corps was releasing 6,000 cfs from Gavins Point Dam, less than one fourth the normal flow for that time of year. Between Gavins Point and Sioux City, the resulting drop in stream flow left wide mud flats and sand bars along the main channel, and many side chutes dried up completely. These shallow areas of the river provide critical habitat for fish and other aquatic life, which live and reproduce there. As the water receded, most large fish moved out of the shallows and congregated in cool, deep pools, where they became easy targets for fishermen. Smaller fish, insects, and other aquatic creatures often found themselves stranded in land-locked pools, typically only a few inches deep. There, predators and high temperatures quickly took their toll. Considering the dwindling numbers of species such as pallid sturgeon and paddlefish, the loss of a large percentage of young fish in 1993 could have long-reaching consequences.

Meanwhile, abnormally high water downstream also caused environmental damage. Although periodic flooding tends to rejuvenate the soil and contributes to wetland habitat, the flood of 1993 was, in most respects, too much of a good thing. Fertilizers, sewage, and other toxins washed into the river. Cities such as St. Joseph, Missouri, experienced shortages of drinking water as water purification plants were inundated. Downstream, the Mississippi became polluted in turn and is now dumping its contaminants into the Gulf of Mexico. There, they are expected to double the size of the existing "dead zone" where algae block the sunlight and consume the oxygen until fish can't survive.

In addition to the environmental damage, the flood killed some people, displaced many others, caused extensive property damage, and temporarily submerged millions of acres of farmland. In some places, the river changed its channel or washed land away. Cleanup is sure to last for quite some time. So far, $6.2 billion in federal aid has been earmarked for flood relief.

In light of the flood's devastating impact, questions are being raised: Can the nation afford to rebuild everything destroyed by the water? Should



building continue to be allowed, indeed encouraged, in the floodplain? Should the government buy out farmland and some flood-prone urban areas from willing sellers to use that land to re-establish a natural floodway that would allow the river to periodically overflow its banks?

Reinstating a natural floodplain would reduce the amount of property damage during periods of high water. It would also help restore wetlands and species habitat along the Missouri.

The Pick-Sloan plan, which has been the basis of Missouri River management since 1944, included provisions for a floodway extending from Sioux City, Iowa, to St. Louis, Missouri. During the 1970s, the floodway fell out of favor when proponents encountered strong opposition from levee districts, landowners along the riverbank, and others concerned about the money it would cost. Bank stabilization, a much more popular project, was completed in 1980. Although the levees have proven beneficial to some degree, this year's floods showed that it's not always possible to contain the Missouri.

Missouri River Master Water Control Manual Review & Update

Executive Summary of the Preliminary Draft Environmental Impact Statement

Introduction:

After 3-1/2 years of work, the U.S. Army Corps of Engineers' Missouri River Division office has released some preliminary results of its update of the Missouri River Master Water Control Manual.

The Master Water Control Manual (Master Manual) provides an overall planning framework for the River's dams and channel system. It identifies critical (and, as we have seen over the past few years, volatile) criteria such as when to make cuts in the length of or supporting flows to the navigation season during drought. The Master Manual also divides the total Missouri River reservoir storage of 73.5 million acre-feet (MAF) into four zones: the Permanent Pool, currently established at 18.1 MAF; the Carryover Multiple Use zone, to which has been designated 39 MAF of storage; the Annual Flood Control and Multiple Use zone, now at 11.7 MAF; and the exclusive Flood Control Zone at 4.7 MAF.

The Corps evaluated the economics of the various uses of the River System (water supply, flood control, hydropower production, etc.) in the study. They determined the impacts on those uses (and on the River's environmental resources) of changes in the operation of the reservoir system. Changes in operations considered by the Corps in the Master Manual study included modifications to the navigation season, spring-fall non-navigation season, and winter releases from the reservoirs. The Corps also considered raising the permanent pool level from the current 18.1 MAF to various levels as high as 48 MAF.

The following article is taken from the Executive Summary of the study issued by the Corps this summer.

The Missouri River Mainstem System consists of six dams and reservoirs located in Montana, North Dakota, South Dakota, and Nebraska, and the Missouri River Navigation and Bank Stabilization Project from Sioux City, Iowa, to the river's mouth at St. Louis, Missouri. The mainstem dams are Fort Peck, Garrison, Oahe, Big Bend, Fort Randall, and Gavins Point. The six mainstem dams form six major reservoirs on the Missouri River: Fort Peck Lake, Lake Sakakawea, Lake Oahe, Lake Sharpe, Lake Francis Case, and Lewis and Clark Lake. Construction of the mainstem dams was completed in 1964. The system first filled to normal operating level in 1967. The Missouri River Master Water Control Manual (Master Manual) for the operation of the Mainstem System was first published in December 1960. The Corps initiated the review of the Master Manual in November 1989 to determine if the current Water Control Plan described in the Master Manual best meets the contemporary needs of the Missouri River Basin. The review has taken the form of a study called the Missouri River Master Water Control Manual Review and Update (Study). The Study consists of technical studies; alternatives development; and economic, environmental, and social impact assessments.

Current Water Control Plan and Alternatives

The largest portion of the Mainstem Reservoir System storage capacity, 53%, is designated to provide for all uses during drought periods. This zone is operated so that it remains full during periods of normal inflow, but is gradually drawn down during drought periods.

According to the current plan, the water in the carryover multiple use zone would be completely used if the drought of the 1930s were repeated. Releases from this zone during drought periods to support navigation service level, navigation season length, and non-navigation service level are a major concern of the Study.

Support for navigation on the Missouri River below Sioux City is provided by the release of water from the Mainstem System reservoirs. The navigation season length is based on the amount of water in storage. The current plan calls for a full-length season of 8 months if water in storage is 41 million acre-feet (MAF) or more on July 1. The navigation season is shortened progressively as the amount of water in storage decreases. Winter non-navigation releases are also based on water in system storage.

Alternative Water Control Plans

The search for a water control plan that best serves the contemporary uses of the Mainstem System focused on two primary features of the Master Manual:

1. **The amount of system storage set aside for the permanent pool** and the resulting size of the carryover multiple use zone, and

2. **The regulation of releases** for various needs: water supply, flood control, power production, water quality, irrigation, navigation, recreation, and environmental quality.

In developing new alternatives for release schedules, the Corps considered the following:

- Changing the navigation criteria for service level and season length;
- Changing minimum releases from Gavins Point Dam during non-navigation periods;
- Changing Gavins Point spring and summer releases to improve the Missouri River ecosystem, e.g. fish and wildlife habitat.
- Changing restrictions on spring and summer releases of water to protect threatened and endangered birds that nest on river islands.
- Modifying intrasystem regulation to draw down and fill the upper three reservoirs over a cycle of 3 years to provide better conditions for fish reproduction.

Numerous alternative water control plans were identified during the Study. From the available possible array, two groups of alternatives were evaluated in greater depth: those designed primarily to improve National Economic Development economics (NED alternatives), and those designed primarily to improve Environmental Quality (EQ alternatives).

A set of 277 NED alternatives were identified for analysis. All 277 alternatives reduced navigation service earlier in a drought to save enough water so that all users could benefit from the conserved water. A modified intrasystem regulation designed to draw down and fill the upper three reservoirs over a cycle of 3 years was also applied to each of the 277 alternatives. Six permanent pool levels were evaluated -- 18 MAF, 26 MAF, 31 MAF, 38 MAF, 44 MAF, and 48 MAF.

A set of 30 environmental alternatives were developed for analysis by varying permanent pools, differing lengths of no navigation support (0, 1, and 2 months), and imposing or eliminating flood-control constraints. August is the month with no navigation support for alternatives with 1 month of no navigation support. August and September have no navigation support when 2 months have no navigation support. All EQ alternatives use the modified navigation criteria and the intrasystem regulations described for the NED alternatives.

General Evaluation of Environmental Effects of Alternatives

Changes to navigation season length and service level: The first change considered in the Study was modifying the criteria for navigation season length and service level. By reducing service level and season length earlier in a drought, dam releases are reduced and water is conserved for future use. The more conservative criteria have the following impacts:

- reducing the number of non-navigation years within the 93-year simulation period.
- improving the overall NED benefits for navigation ($0.2 million/year).
- improving hydropower benefits ($3.2 million/year) because of the higher average lake levels.
- slightly improving flood control, water supply, and recreation use of the system.

Reduced dam releases and higher lake levels in drought periods resulting from the modified navigation criteria lead to changes in environmental resources as well, including:

- improving fish production and habitat in the reservoirs.
- increasing the amount of warmwater fish habitat below the upper

three dams because of lower summer and fall flows.
- improving coldwater fish habitat in the river below each of the upper three dams.
- enhancing the physical habitat for native fish.

Overall, the benefits in economic and environmental value outweigh the negative effects. For this reason, the decision was made to recommend the more conservative navigation criteria.

The EQ Flow Series: The EQ flow series evaluated in the study alternatives called for an increase in spring releases and reduced late summer releases to provide a more natural river flow regime. There are two different series within the EQ's, the EQ1 and EQ2, with the EQ1 releases not being constrained by flood control limitations and the EQ2 releases being constrained to minimize overbank flooding.

In general, the EQ alternatives provide somewhat lower lake levels, higher spring and early summer river flows, and lower late summer and fall river flows than the NED scheme. The EQ1 series reduces average annual system storage substantially more than EQ2, while EQ2 maintains average annual storage more similar to the NED alternatives.

The EQ alternatives lead to reductions in economic value and improvements in environmental resources. **The best economic performing EQ alternatives fall approximately $20 million per year in benefits below the best performing NED alternatives.** The tradeoff comes in higher resource value for the EQ series in 1) fish production in lakes; 2) coldwater reservoir fish habitat; 3) river warmwater fish habitat; 4) river fish physical habitat; and 5) total wetland habitat.

The EQ2 series provides $10 million to $20 million more economic benefits per year than does the EQ1 series. However, the EQ1 series produces 7 to 18 percent higher average annual fish production in lakes, 7 percent less average annual coldwater fish habitat in lakes, 5 to 8 percent less average annual warmwater fish river habitat, 6 to 11 percent more wetland habitat, 0 to 19 percent higher tern and plover nesting habitat, and 5 to 8 percent more stability for historical sites. There is little difference (<5 percent) between the two in terms of river physical fish habitat or river coldwater fish habitat.

Among the EQ alternatives is the option for 0, 1, or 2 months of no navigation in the middle of the navigation season to replicate a natural hydrograph. **In general, the split season reduces total economic benefits by $4 million to $40 million per year for the 2-month no-navigation split.**

Among the NED and EQ alternatives, raising the permanent pool has little effect on total economic benefits. Changing from the 18 MAF permanent pool to the 44 or 48 MAF permanent pool results in NED benefits shifts of less than $5 million per year or less than 1 percent of the total annual economic benefit. Navigation is most negatively affected with a decline in benefits of about 75 percent during extended droughts.

In terms of environmental value, raising the permanent pool among the NED and EQ alternatives markedly improves some environmental resources while causing decreases in others. **In general, higher permanent pools improve tern and plover nesting habitat substantially during drought periods.**

Among NED alternatives, higher nonnavigation releases from Gavins Point Dam generally reduce average annual economic benefits over the 93-year simulation period. The only major exception to this pattern is the 9 kcfs minimum winter release which has the lowest NED economic value due to very low water supply benefits.

Detailed Evaluation of Environmental Effects of Seven Alternatives

The study subjected seven alternatives to a more detailed evaluation. The current water control plan was among the seven alternatives chosen for comparison purposes. An NED flow series was chosen for three different minimum pool levels. This flow series consisted of a minimum of 12 kcfs in the winter, 9 kcfs in the nonnavigation spring/fall, 25 kcfs in a non-navigation summer, modified navigation service criteria, and modified intrasystem regulation criteria. In choosing a flow series for the EQ alternatives, special emphasis was given to improve conditions for native riverine fisheries above the current Water Control Plan. The EQ flow series was evaluated at three minimum pool levels, 18 MAF, 31 MAF, and 44 MAF.

When compared to the current Water Control Plan, **the NED flow series has the largest impact on tern and plover habitat (+41 percent).** This series results in smaller improvements for young-of-year fish production (+13 percent), reservoir coldwater habitat (+9 percent), and wetland habitat (+8 percent).

Raising the permanent pool above 18 MAF for the NED series generally does not result in significant improvement for the basin's wetland resources. However, increasing the permanent pool to 44 MAF significantly improves tern and plover habitat, which increases to 48 percent over the current Water Control Plan. Reservoir coldwater habitat is improved from the current water control plan by

raising the permanent pool to 44 MAF. The higher permanent pool has a negative impact on both river warmwater habitat and historic properties.

The EQ flow series improves tern and plover habitat, at all permanent pool levels. The EQ series results in small positive differences for reservoir coldwater habitat (+11 to +24 percent), young-of-year fish production (+11 to +21 percent), river physical habitat (+12 percent for all three), and wetland habitat (+5 to +10 percent). Small negative differences occur for all three EQ alternatives for riparian habitat (-14 to -17 percent) and historic properties (-3 to -13 percent). The most important percentage difference among all of the environmental resource values is the +12 percent for river physical habitat. The NED series presented in the detailed evaluation provided essentially no improvement to this resource category, which measures effects to the physical habitat of the native riverine fish community, including the endangered pallid sturgeon and other species that are candidates for Federal listing.

The total NED value was essentially unaffected by increasing the permanent pools among the three NED alternatives. Of all the uses evaluated, only navigation was affected by more than 4 percent, its value decreasing by 43 percent for the 44-MAF permanent pool.

The difference in total economic benefits between the EQ flow series and the current Water Control Plan is only -1 to -2 percent. That difference is lower under a higher permanent pool. Even though the percentage difference is low, the actual difference ranges from $17 million per year for the 44-MAF permanent pool alternative to $20 million per year for the 18-MAF permanent pool alternative.

Navigation receives the most losses with a change to the EQ flow series from the current Water Control Plan, the differences ranging from -39 percent for the 18-MAF permanent pool alternative to -62 percent for the 44-MAF permanent pool alternative. Flood control (-5 to -8 percent) is the only other use category that differs by as much as 3 percent over the 93-year simulation period.

The largest part of the average annual economic benefits of the river system comes from hydropower (49 percent) and water supply (43 percent). Because these two uses are not affected by more than 2 percent, the total NED benefits are basically unaffected by a switch to the EQ alternatives.

Distribution of Direct Regional Economic Development (RED) Benefits: North Dakota and Montana direct RED benefits rise about 1 percent for an increase to the 31-MAF permanent pool. South Dakota, Nebraska, and Iowa continue to break essentially even. Kansas experiences a measurable loss of 4 percent (only $0.8 million per year over the 93-years). Missouri also experiences a loss, which, at only 1 percent, totals $1.5 million.

A change to a 44-MAF permanent pool produces the following changes in direct RED benefits:

- Montana (+$1.3 million) and North Dakota (+$5.2 million) gain 2 percent for this change.
- South Dakota (+$3.3 million) gains 1 percent
- Iowa (-$2.4 million) loses 1 percent.
- Kansas (-$1.9 million) loses 9 percent, and
- Missouri (-$2.9 million) loses 2 percent

Total average annual direct RED benefits decline by 1 percent with a change to the EQ flow series. Increases in the permanent pool do not affect this percentage.

For the 18 MAF permanent pool EQ alternative, the 1-percent loss would be primarily distributed to Nebraska (-1 percent), Iowa (-5 percent), Kansas (-5 percent), and Missouri (-3 percent). The upstream states and the other category continue to have a difference of less than 0.5 percent.

Raising the permanent pool to 31 MAF provides a gain of 1 percent in Montana and North Dakota, essentially no change to South Dakota and the other category, and a minor increase (another 1 to 2 percent) in losses to the four states downstream from the mainstem reservoirs.

The upper basin states gain another 1 percent for a change from the 31-MAF permanent pool alternative, while three of the four lower basin states' losses continue to grow.

Study Conclusion

The major variables in selecting a water control plan are flow series, either NED or EQ, permanent pool size; and navigation service level criteria. Within the EQ flow series, additional variables are the amount of flood control constraints and the number of months of no navigation support during the summer.

NED vs.EQ Flow Series: From an economic perspective, the selection of flow series impacts only those economic factors downstream from Gavins Point Dam. Selection of an EQ flow series does not substantially reduce total NED value; however, the split navigation season aspects of the EQ flow series severely reduce navigation benefits. Neither flow series reduces the amount of wetland habitat. The EQ flow series substantially reduces the amount of riparian habitat. Tern and plover habitat is greater under the NED flow series. Young-

of-year fish production and reservoir coldwater fish habitat are about the same with either flow series. River warmwater fish habitat is slightly improved and river coldwater fish habitat is reduced with the EQ flow series. Native fish habitat is substantially higher with the EQ flow series.

Permanent Pool Size: Increasing the permanent pool size has little impact on total economic benefits. Hydropower and upstream recreation benefits are slightly improved with higher permanent pools, while navigation benefits are sharply reduced as permanent pools are increased. **The net effect is a shifting of economic benefits from the downstream states to the upstream states as permanent pools are increased.** This shifting of benefits is greater in times of severe drought. Increasing the permanent pool has little impact on young-of-year fish production except during drought, when it leads to better young-of-year production. Increasing permanent pools has little impact on native fish habitat, improves reservoir coldwater fish habitat, reduces river warmwater fish habitat, and improves river coldwater fish habitat

Navigation Service Level Criteria: **Use of the more conservative navigation service level criteria improved economic and environmental benefits during drought periods.** This criteria reduces the navigation service level earlier in a drought, conserves water in reservoir storage, and reduces the number of non-navigation years.

Eliminating flood control constraints in the EQ flow series results in increased wetland habitat, better reservoir fish production, and a slight improvement in native fish physical habitat. Economic performance is substantially reduced when flood control constraints are eliminated.

Among the EQ alternatives is the option for 0, 1 or 2 months of no navigation support in the middle of the summer. Economic benefits are reduced slightly when the navigation season is split, with navigation and water supply benefits being impacted the most. Physical habitat for native fish is greatest with a 2-month split in the navigation season

The total NED economic output of the system can be maintained within a few percentage points of maximum for a very broad range of alternatives. This range is broad enough that it does not appear to limit the consideration of any other factor. Because it does not constrain the preferences, total NED economic output is not likely to be a distinguishing factor in selecting the preferred plan.

There are many different and often competing resources within the EQ factor. Nine resources make up the EQ factor in this analysis. Although there are some differences and minor conflicts among them, over a long period they are quite compatible. The most important distinguishing feature is the improved physical habitat for native riverine fish species (including the endangered pallid sturgeon) provided by the EQ alternatives. This results in a preference, from an EQ standpoint, for the EQ alternatives over the NED alternatives and the current Water Control Plan at all permanent pool levels.

Even distribution of NED economic effects of drought among project uses is desirable. Navigation receives the greatest percentage reduction in benefits during a drought. This is because navigation is a large water user and is affected the most by conservation measures during water shortages. Also, higher permanent pool alternatives provide less water for navigation and other riverine uses during droughts. Therefore, **the current Water Control Plan and the NED alternatives with the smallest permanent pool provide the most even distribution of NED economic effects on a percent basis**. The distribution becomes more unbalanced with the intermediate pool NED alternatives and the smallest permanent pool EQ alternatives. The distribution becomes extremely unbalanced for the NED alternatives with the larger permanent pool and the EQ alternatives with the intermediate and largest permanent pools.

The smallest permanent pool EQ alternatives provide the most even RED economic distribution, followed by the EQ alternatives with intermediate permanent pools and the NED alternatives with the largest permanent pools. Least preferable are the current Water Control Plan and the largest permanent pool EQ alternatives.

Three of the four plan selection factors are fairly compatible. Total NED economic output, environmental quality, and RED economic geographical distribution appear reasonably well served by the EQ alternatives with the smallest and intermediate permanent pools. This preference is driven primarily by the improved physical habitat for native riverine fish species provided by the EQ alternatives. However, even distribution of NED economic effects of drought among the uses is not well served by the smallest and intermediate permanent pool EQ alternatives, which shift the impacts of drought from water supply, hydropower, and recreation to navigation. No alternatives have been identified that substantially improve physical habitat for native riverine fish species without shifting the effects of drought to navigation. Selection or development of a preferred plan must contend with this major conflict.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Executive Assistant

MRBA OFFICERS:
PRESIDENT: Dave Sprynczynatyk, North Dakota State Engineer
VICE-PRESIDENT: Jim Brown, Iowa State Water Coordinator
SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
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David Shorr, Director, Missouri Dept. of Natural Resources
Mark Simonich, Director, Montana Dept. of Natural Resources & Conservation

TRIBAL REPRESENTATIVE:
Daryl Wright, Mni Sose Tribal Water Rights Coalition, Rapid City, SD

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
William Kastner, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT-Maritime Administration

Missouri River Basin Association
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX (406) 542-7585

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MISSOURI RIVER BASIN ASSOCIATION
P.O. BOX 9193 MISSOULA, MONTANA 59807 PHONE 406-542-6272
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Dams save billions in additional damages during summer's record floods

By John Ferrell, Corps of Engineers

The great flood of '93 was of epic proportions, and the U.S. Army Corps of Engineers is still assessing its effects. Those who experienced it were awed by its extent and force.

The flood uprooted thousands of people and destroyed or damaged their property. People and animals were caught in the raging waters and killed. The high water damaged millions of acres of agricultural land, devastated towns and businesses, cut off water supplies, and knocked out roads, bridges and railways.

The upper Mississippi River was closed to navigation from early July to August 22, trapping more than 2,000 barges north of Cairo, Ill. The Missouri River was closed to navigation for 52 days. Economic losses to the shipping industry were estimated at $700,000 per day.

Cause of the Flood

The prolonged flood of '93 really started in November 1992. The snowfall that winter was greater than normal. Then in March, heavier than normal spring melt saturated the ground. From April 1 to July 25, the Midwest averaged more than 18 inches of rain, with many areas receiving 30 inches. Then the heavy rains came. In June and July, an abnormal high-pressure system brought drought to the Southeast, pumped moisture into the Midwest from the Gulf of Mexico, and prevented storms from moving out of the region.

These conditions, combined with a low-pressure system in southern Canada, spawned wave after wave of intense thunderstorms across the upper Mississippi and Missouri river basins. The summer of 1993 was the wettest ever during 99 years of record in parts of Montana and all of North Dakota, South Dakota, Minnesota, and Iowa. It was the third wettest year for Nebraska. Kansas had its fifth wettest summer, and Missouri and Wyoming each had their sixth.

Rainfall during July exceeded 462 percent of normal for the Missouri River basin. It continued to average well above normal into the fall, slowing the recession of rivers and streams and prolonging the recovery from the devastation.

By mid-June, the saturated earth and swollen tributaries could hold no more. The flood waters rolled. On July 2, Missouri Governor Mel Carnahan declared a state of emergency for counties along the Missouri and Mississippi rivers. On July 18, Kansas Governor Joan Finney declared a state of disaster emergency for all 105 counties of Kansas.

The Corps of Engineers Emergency Management Offices (EMOs) responded to thousands of calls for help that ranged from requests for sandbags, potable water and water pumps to technical assistance and advice. The EMOs worked around the clock for the first 37 days, then scaled back to 12-hour days.

Role of Dams and Reservoirs

Floods are not uncommon in the Midwest, and the existing flood control system regulates high water through a variety of floodwalls, levees and reservoirs. However, the flood of '93 was far greater than the system was designed to handle.

Flood control reservoirs on the tributaries of the Missouri River performed as designed, and each played a major role in reducing flood damages. They impounded record amounts of water but simply couldn't contain the seemingly never-ending flows that drained out of the saturated basin. Many reservoirs filled to capacity. The spillway gates at Tuttle Creek Lake, Kansas; Milford Lake, Kansas; and Rathbun Lake, Iowa were opened for the first time in their respective histories.

Reservoirs on the Missouri River itself, which had been drawn down during six consecutive years of drought, nearly refilled in 1993. The six big mainstem dams held back huge volumes of water, significantly reducing river levels in the lower Missouri basin and middle Mississippi basin and preventing the overtopping of urban levees at Kansas City and St. Louis.

By current estimates, the Missouri River basin flood control works prevented damages of about $7.7 billion,

of which $4.8 billion can be attributed to the reservoirs. If the system of reservoirs had not been in place, the flood of '93 would have been much worse, as shown in Figure 1.

Impact on the Levees

Unfortunately, much of the exceedingly heavy rainfall and runoff was below the area of capture for the big dams. The Missouri River reached an all-time high of 48.8 feet in Kansas City. Other high water marks were set throughout the length of the river, as shown in Figure 2. All that water overwhelmed the lower basin's levee system.

The Corps places levees into four categories:

1. *Federal*: built with federal funds, and maintained by either the Corps or a local government entity.
2. *Federal*: built with federal funds, and locally maintained
3. *Non-federal, eligible*: not built with federal funds, and maintained by a local levee district. Eligible for repair under Public Law 84-99. Eligibility is determined by evidence of public sponsorship and several tests of construction, materials, and the operation and maintenance of the levee.
4. *Private, ineligible*: constructed with private funds, and not meeting the eligibility standards for repair.

The effects of the flood on federal and non-federal levees along the Missouri River were:

- None of the four federally maintained levees were damaged.
- 25 of 75 federally constructed & locally maintained levees were damaged.
- 110 of 128 non-federal eligible levees were damaged.
- All 884 (estimated) non-federal ineligible levees were damaged.

Figure 1: Damage Prevented by Reservoirs & Levees in Missouri Basin, 1993

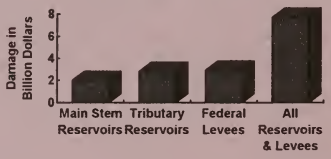
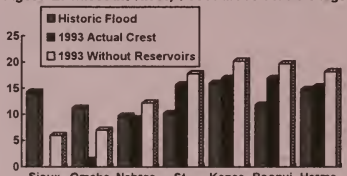


Figure 2: Missouri River, Feet Above Flood Stage



The flood caused an estimated $12 billion in total actual damages along the upper Mississippi River and portions of the Missouri River basin. Due to the magnitude of the destruction, the Corps of Engineers created the Office of the Deputy Director of Civil Works for the Upper and Middle Mississippi and Missouri River Basins. The organization, staffed with professionals from throughout the Corps, planned and supervised the levee repairs and developed policies on a number of related issues. Among those policies:

- Steps were taken to ensure that expediency would not override environmental considerations.
- The 80/20 cost-sharing policy remained in effect for non-federal eligible levee repair. However, it was determined that another federal agency, such as the Federal Emergency Management Agency, could agree to fund the communities' 20 percent.
- Policy on eligibility for repairs remained basically unchanged.
- All non-federal eligible levees could be repaired.
- Ineligible levees could be repaired if their ineligiblity had been based on other than construction criteria. An interagency review encouraged the Environmental Protection Agency and the U.S. Fish and Wildlife Service to buy out non-federal and private levees.
- Engineering and maintenance guidelines remained in effect to protect health and safety.

The levee repair was divided into two stages: emergency and permanent. Emergency repairs are those needed immediately to protect the region from the usual flooding next spring. Levee repair work is accomplished under Public Law 84-99, which permits the Corps to rebuild flood control works damaged or destroyed by floods.

Aftermath

High-ranking representatives of various government organizations have been meeting to ensure that policies are consistent and that the Clinton Administration's intentions are carried out. Participating agencies include the Corps, the Federal Emergency Management Agency, the U.S. Department of Agriculture's Soil Conservation Service, the Environmental Protection Agency, the Department of the Interior, the Department of Housing and Urban Development, the Small Business Administration, the Department of Commerce, and the Department of Transportation.

Many decisions lie ahead for the Missouri basin. In many ways, the flood of 1993 may mark a defining moment in national flood control policy. In the next few years, the Missouri basin will be studied from many viewpoints. Environmentalists, farmers, communities, waterway shipping industries, and industrial centers will all want to be heard and heeded. Eventually, the American people and their Congressional representatives will consider all those points of view and decide how to manage the flood plain in the future.

FEDERAL REPORTS

BUREAU OF RECLAMATION

Elevations at many Reclamation reservoirs in the Missouri River basin are up substantially from this time a year ago. In Montana, Tiber Reservoir near Havre ended September with the highest water surface elevation since 1965. Fresno Reservoir on the Milk River Project ended the month with the highest level since 1976, and Bighorn Lake followed with the highest level since 1985.

In South Dakota, an unusually wet summer enabled most reservoirs to recover from earlier drought conditions and end the season with levels that were substantially higher than a year ago. In the northwestern portion of the state, Shadehill Reservoir ended September with the highest elevation since 1958 for that time of year. Pactola Reservoir near Rapid City ended the month with the highest elevation since 1986.

In late summer, rains in North Dakota brought Jamestown Reservoir well into the flood pool, and the water stood nearly at record level by the end of September. Record high releases from this reservoir were necessary to evacuate the flood water before the winter season.

Irrigators in Kansas and Nebraska, where reservoir contents have been steadily declining for more than a decade, experienced the most dramatic turnaround in reservoir content. Reclamation reservoirs on nearly all Missouri River tributaries, including the Frenchman, Republican, Solomon, and Niobrara rivers, ended the water year at record or near record levels. Waconda Reservoir, behind Glen Elder Dam on the Solomon River, remains 23 feet into the flood pool.

Only the North Platte and Kendrick Projects on the North Platte River in Wyoming ended September 1993 with reservoir contents below average. Seminoe Reservoir is at 85 percent of average, while Pathfinder is at 67 percent of average. Both of these reservoirs, however, ended the month with levels higher than what has been experienced for the past five or six years.

NATIONAL PARK SERVICE

In 1978, Congress designated 59 miles of the Missouri River downstream from Gavins Point Dam as the Missouri National Recreational River. The Niobrara Scenic River Designation Act of 1991 added several other National Recreational River segments, including 39 miles of the Missouri River from Fort Randall Dam to the headwaters of Lewis and Clark Lake, the lower 20 miles of the Niobrara River, and eight miles of Verdigre Creek from the city limits of Verdigre to the Niobrara.

The National Park Service, which is in charge of planning along these river segments, set up a six-person planning office in O'Neill, Neb., in 1991. The Park Service is developing two general management plans and a special resource study for a proposed National Recreation Area. Personnel from the National Park Service's O'Neill office, the Denver Service Center, and many other state, local and tribal governments are preparing general management strategies and overall philosophy for these river segments. The plan will address management of natural and cultural resources, programs, actions, and support facilities for operations and visitor use. Environmental impact statements are also prepared as a part of these plans. The Park Service expects to complete the plan within two to three years to complete.

In 1991, Congress authorized the establishment of a Missouri Recreational River advisory group to assist with planning for the next 10 years. Advisory group members were chosen from nominees submitted by the affected county governments, planning agencies, Indian tribes, federal agencies, and the governors of Nebraska and South Dakota. The advisory group has met four times.

WESTERN AREA POWER ADMINISTRATION

The extraordinary precipitation this summer and early fall has signifi-

cantly filled most of the system's mainstem reservoirs. As of October 1, all but Fort Peck and Gavins Point had attained 100 percent of normal storage capacity. Current total system storage is 56.9 MAF, right at the 1967-1992 average for this time of year. With normal or better snowpack this winter, the Western Area Power Administration expects average generation to resume next spring.

The excess moisture and storage of this summer did not, however, come without a cost. In July and August alone, Western purchased nearly $10 million in energy to compensate for restricted releases from the dams, a measure taken by the Corps of Engineers to prevent further damage from downstream flooding. For the three months of July, August and September, generation was 1,090,000 MWh, representing only 36 percent of the energy normally produced during this period.

*****

The comment period for Western's proposed rate adjustment officially closed on October 6, 1993. Currently we are reviewing comments and formulating a Record of Decision. The rate adjustment is tentatively scheduled to go into effect during the first billing period in February 1994.

*****

The draft environmental impact statement (EIS) for the Energy Planning and Management Program has been returned to Western from the Department of Energy. Western expects to include a broader range of alternatives than previously announced in February and June of 1992. In addition, to assure that all alternatives are given fair and equitable consideration, no preferred alternative will be designated. Individuals who have already requested a copy of the draft EIS will receive it as soon as the report is completed, approved and printed. Everyone on the EIS mailing list will get a copy of the executive summary. Two public comment forums will be held within the Billings Area Upper Missouri region following publication of the draft report in the Federal Register, tentatively scheduled for January 1994.

STATE REPORTS

IOWA

Governor Terry E. Branstad

Although flood season in Iowa has passed, the impact of the summer of '93 won't go away for some time. Forecasters predict that above-normal precipitation will continue and probably cause more flooding next spring, since the absence of a long, hot period this summer created conditions that prevent the state's unusually high levels of groundwater from receding. In the winter, freezing and expansion of the ground could significantly damage foundations and basements, which would further frustrate homeowners who have suffered greatly from the rising waters.

The nationwide interest in using the floods of 1993 to reduce or eliminate levee protection in certain areas (by not repairing damaged levees) creates a difficult situation for Iowans. Some have suggested that allowing agricultural land to flood will reduce the flood stages in urban areas. Residents of small communities and farmsteads protected by the structures aren't as enthusiastic, however. Hopefully, a blend of these interests will prevail. With the ability to utilize federal funds in a flexible manner, and with adequate information on alternatives, local agencies in some areas might consider non-structural options. Those who wish to rebuild should be allowed to do so quickly to prevent further needless loss from spring floods. New direction in policy regarding the construction of levees and protection of areas requires a longer term of review and must incorporate guarantees of equitable compensation for everyone.

As the year draws to an end, thoughts turn to the next legislative session. Revenue projections have not shown the expected income slide because of the floods, but experts look for indications of the impact soon. Steps are being taken to decide how to structure the state's budget in response to the decline.

MISSOURI

Governor Mel Carnahan

By Gary Chilcote, staff writer
St. Joseph News-Press

St. Joseph residents didn't have much time to celebrate the city's 150th birthday July 26. That was the day the Missouri River hit an all-time record crest of 32.8 feet here, more than 15 feet above flood stage.

The municipal water plant was inundated for the first time in its 111-year history, leaving 85,000 people in St. Joseph and the surrounding area without drinking water for at least five days during the hot summer.

The city's airport, Rosecrans Field, was covered with up to 12 feet of water after a major levee broke unexpectedly. At the Air National Guard, base workers placed their computers and typewriters on top of file cabinets, but the water reached over the tops of the doorways.

A six-year-old C-130 cargo plane undergoing modifications could not be moved from the hangar. It had eight feet of water inside for almost two weeks. Now the plane has been refurbished locally and is expected to fly in November.

Sherwood Medical Industries, a major employer at St. Joseph, was flooded at the airport and has decided

not to reopen here. The closing put 722 employees out of work. Their average wage had been $10 an hour.

Elwood, Kan., a community of 1,200 people on the other side of the river, was covered with up to 12 feet of water.

U.S. Highway 36 from St. Joseph west was closed for more than a month, and those commuting to St. Joseph from neighboring Wathena, Kan., had to detour through Leavenworth each day, a 180-mile round trip instead of the usual five miles.

Elwood is now rebuilding but has torn down two motels, the Methodist Church, 140 homes and 60 trailers. Payless Cashways lumber yard moved from Elwood to St. Joseph.

St. Joseph's municipal water plant was accessible only by boat for more than three weeks. To get the flooded pump motors rebuilt, holes were cut in the roof, and a helicopter crane lifted them out and onto trucks parked on Interstate 229.

The motors were rushed to Kansas City, cooked 24 hours to dry them out, and then flown back to St. Joseph. That operation cost more than $1 million.

Water did not top the levee into the industrial area of St. Joseph, but more than 6,000 South Side residents were evacuated as a precaution.

One of the first buildings flooded was the city's public works department, normally a command post for such emergencies.

And the city's sesquicentennial birthday party? Mayor Glenda Kelly rescheduled that for late August.

NEBRASKA

Governor E. Benjamin Nelson

Since the passage of LB301, a bill allowing municipalities to obtain water rights for induced well water recharge from rivers and streams, broader application of conjunctive water use management has been widely discussed. In early June, Governor Nelson asked 24 people to investigate "integrated water use" issues and to make recommendations. Chris Beutler, chair of the legislature's Natural Resources Committee, and Michael Jess, Director of Water Resources, were named co-chairmen.

The group has met four times. Draft legislation is still a long way off, but a conceptual outline has been extensively discussed. As many expected, consensus on all but a few points remains lacking.

The council plans at least one additional meeting before the next legislative session begins in January.

NORTH DAKOTA

Governor Edward T. Schafer

North Dakota continues to look at the possibility of assuming responsibility for administering the Section 404 permitting process under provisions of the Clean Water Act. Action by the last legislative assembly provided the enabling legislation, but the state has not made up its mind about assuming the program. An advisory panel of representatives from a cross-section of water and other interests is expected to make its recommendation on the subject later this year or early next year. North Dakota's interest was initially triggered by the sometimes protracted period of time between submittal of an application and a response from the Corps of Engineers, the agency currently charged with administering the program for the Environmental Protection Agency. In recent months, the Corps' response time has improved.

The State Water Commission's Division of Planning and Education has taken the first steps to develop a state water conservation plan. Several representative samples of various types of conservation plans are currently being reviewed by the division. The Bureau of Reclamation's regional Water Conservation Office has provided samples from throughout the Missouri River Basin and from states well beyond the basin's hydrologic boundaries.

The first edition of North Dakota Water, a 24-page magazine to be published 10 times per year by the newly formed North Dakota Water Education Foundation, made its debut in late October. The foundation, which will offer the magazine to the public for an annual subscription rate of $15, solicits contributions from readers and others on a wide spectrum of water-related issues. It is hoped that a combination of subscriptions and advertisements will eventually cover the costs of printing and distribution.

SOUTH DAKOTA

Governor Walter D. Miller

Severe flooding occurred in eastern South Dakota during May, June, and July 1993. Preliminary estimates from the Federal Emergency Management Agency (FEMA) put losses to agricultural at $572 million, public facilities at $12 million, businesses at $2 million, and private residences at $10 million.

The South Dakota Department of Environment and Natural Resources (DENR) soon became involved in the response to the flood. The department's public information officer and staff members of the Sioux Falls Regional Office participated with the state's Flood Control Center based out of Sioux Falls. They worked long hours assisting the state's Emergency Services Division and providing information and guidance to citizens in flood-damaged areas.

When wastewater- and drinking-water facilities failed, the DENR provided technical and financial assistance to the affected communities. A major sewer line to the Madison wastewater treatment plant washed out, causing a continuous discharge of raw, untreated wastewater to Lake Madison. The DENR, along with the Department of Health and the Department of Game, Fish, and Parks,

closed the lake until the high levels of fecal bacteria had decreased. Trace amounts of pesticides in Lake Madison may have washed into the lake from agricultural runoff. The DENR is monitoring these chemicals until they disappear completely. Lake Brandt had shoreline erosion and problems related to nearby septic tanks.

There have been no air pollution problems, no major solid waste problems, and in general no major water quality problems. Some private wells were contaminated and some septic tanks ruined. In some towns and cities, sewage backed up into the basements of homes.

One of the major success stories to come out of the flood is what did not happen. SARA Title III facilities are required to report the amount of substances they carry that are considered hazardous material, including petroleum products. They reported that no such substances were lost or ruined from their facilities. These facilities were fortunate. The owners of hazardous materials and the local emergency planning committees deserve credit for their foresight in planning for such a contingency.

Department employees have been assisting FEMA's Flood Damage Assessment Teams and Flood Mitigation Team. The department is also coordinating with other state agencies through the Governor's Disaster Relief Team.

The DENR has applied to EPA for a Supplemental Environmental Grant. The funds will be used in the following programs:

- Hazardous Waste: to collect and dispose of household hazardous waste ruined by flooding.
- Underground Storage Tanks: to determine whether the flooding damaged tanks and piping or caused leaks.
- LUST Trust Fund: to investigate contamination from unknown sources that might have been brought on by the flood, and to fund cleanups when tank owners are financially unable to do so.
- NPDES (Section 106): to inspect facilities in flood areas, to provide technical assistance and to determine if repairs or upgrading are needed.
- Ambient Monitoring (Section 106): to assess long-term impacts on surface and possibly groundwater in flood areas.
- Public Water Supply Systems: to assist in reimbursing for certain emergency repairs of public water supplies in flood areas.

The Department of Agriculture will apply for funds for pesticide collection and disposal.

Canadian floodplain restrictions minimize structural damages

Canada began restricting development in floodplains 20 years ago, and evidence suggests that the policy has greatly reduced the amount of flood damages there.

Canada's Flood Damage Reduction Program is not meant to stop all use of the floodplain but to encourage practical uses, such as greenbelts, parks and agriculture, that are not apt to be completely devastated if the area is flooded. When Canadian rivers overflow into their floodplains, they often swamp campsites, golf courses, roads and farmlands but cause little or no permanent damage.

For more information on Canadian floodplain policy and scientific studies of its impact, contact: Water Planning and Management Branch; Inland Waters Directorate; Environment Canada; Ottawa, Ontario; K1A OH3.

WYOMING

Governor Mike Sullivan

Governor Sullivan and Wyoming's Congressional delegation joined with the Bureau of Reclamation and the State of Wyoming in the dedication of the expansion of Buffalo Bill Dam on September 25, 1993. Buffalo Bill Dam provides storage on the Shoshone River near Cody, Wyoming. The dam was originally built in 1910 to provide agricultural water to the Cody-Powell area.

This expansion increased the dam height 25 feet and provided about 260,000 acre-feet additional capacity, bringing the total storage capacity at the facility to 644,100 acre-feet. The Bureau of Reclamation has been working on the construction at the facility for the past eight years. Four new generators were also installed in a new power plant located at Buffalo Bill. New recreation facilities for Buffalo Bill State Park and a new visitors' center are being constructed as part of this expansion

The total cost of the expansion was $132 million. The State of Wyoming contributed $52 million. Wyoming will have the right to 74,000 acre-feet of water for future municipal and industrial use. The state will also receive partial power generation revenue payments. The power revenues will begin now, but the state has agreed to delay any marketing of its share of the storage for 10 years. Its operation and maintenance costs will also not begin until 10 years from now. The power revenues generated in the next 10 years will be used to offset those future operation and maintenance costs, as well as the original investment.

TRIBAL REPORTS

CROW CREEK SIOUX

The Crow Creek Sioux are asking to share the profit from dams built on land formerly owned by the tribe. They are also asking the government to return land appropriated for hydroelectric projects but not used for that purpose.

Money from hydroelectric power sales at Big Bend Dam in South Dakota would fund an education complex, a rural water system, irrigation development, and similar projects on the reservation, said Richard Bad Moccasin, administrator of the tribe's Office of Unresolved Rights.

Back in the 1940s, the government relocated more than 100 Sioux families during the building of the Fort Randall and Big Bend dams. The families were paid between $700 and $1,700 for their land. Bad Moccasin said the compensation was not nearly enough, because that price reflected the agricultural value of the land, not its true value as a site for profitable hydroelectric projects. He added that the tribe should receive part of the revenue from Big Bend as compensation.

The U.S. Army Corps of Engineers also replaced schools, hospitals, roads and other necessities that the Sioux lost because of the dams, but Bad Moccasin maintained that the Corps' efforts fell short of its obligations.

Master Manual Update

This fall, the Corps of Engineers sponsored a technical review of the preliminary results of its comprehensive assessment of the Master Water Control Manual (Master Manual) for the Missouri River main stem dams. The Omaha meeting took place on September 29 and 30 and was attended by the Directors of the Missouri River Basin Association, technical staff from the basin states, tribal representatives, and representatives of the federal agencies with jurisdiction in the Missouri River basin.

In the months preceding the September meeting, the states, tribes and federal agencies represented through the Association submitted written comments on the Corps' preliminary draft EIS. Col. John Schaufelberger, Commander of the Corps' Missouri River Division (MRD), summarized the results of the study, detailing the impacts of changes in dam operations on the basin's economy and environmental values. He also summarized comments from the states, tribes and federal agencies, explained which comments the Corps would incorporate in the forthcoming Environmental Impact Statement, and explained why the Corps could not implement some of the recommendations. Four new developments came from the meeting, including:

1. The Corps presented a "new alternative" to the group that it developed over the past two months. The Corps designed the new alternative to maximize environmental values while minimizing the impact on economics – particularly the impacts on the navigation industry.
2. The Indian tribes through the Mni Sose Tribal Water Rights Coalition, played a major role in the meeting. The tribes coordinated their testimony and their presentations, a tribute to the success of the Mni Sose at building a representative coalition of the Indian tribes of the Missouri.
3. Hydropower and water supply dwarf other economic benefits of the Missouri River system such as navigation and recreation. Since changes to system operations have little impact on hydropower or water supply, most of the alternatives are a wash economically. Therefore, according to Col. Schaufelberger, environmental considerations may well drive the system ultimately.
4. The politicization of the Master Manual review process has caused a greater degree of scrutiny of the Corps' MRD office by Washington headquarters. The possibility exists that headquarters may not allow the MRD office to identify a preferred alternative in the forthcoming EIS. Almost all participants at the September meeting questioned the value of publishing an EIS that fails to indicate how the Corps prefers to operate the river system in the future.

The Corps will distribute the EIS next spring. It plans no further meetings on the Master Manual before the release of the EIS.

Coordination Directory Available

The Missouri River Basin Association has updated the Coordination Directory, a listing of key water management personnel, addresses and phone numbers from Missouri Basin state, tribal and federal agencies. The Coordination Directory will be available by the first of the year. To order copies, send a check or money order for $25 per copy (to cover costs of production) to the Missouri River Basin Association, P.O. Box 9193, Missoula, MT 59807. The publication will be updated periodically as needed.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Executive Assistant

MRBA OFFICERS:
PRESIDENT: Dave Sprynczynatyk, North Dakota State Engineer
VICE-PRESIDENT: Jim Brown, Iowa State Water Coordinator
SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
Robert E. Roberts, Secretary, SD Dept. of Environment & Natural Resources
David Pope, Chief Engineer, Kansas Division of Water Resources
David Shorr, Director, Missouri Dept. of Natural Resources
Mark Simonich, Director, Montana Dept. of Natural Resources & Conservation

TRIBAL REPRESENTATIVE:
Daryl Wright, Mni Sose Tribal Water Rights Coalition, Rapid City, SD

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
William Kastner, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT-Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX (406) 542-7585

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DIRECTORS SUPPORT FEDERAL LEGISLATION

by Richard Opper

The Missouri River Basin Association is supporting an extensive slate of legislative proposals this year, including federal appropriations to protect and restore the environment, help the Midwest recover from catastrophic floods, and help Indian tribes obtain technical support to better manage their water resources. Last month, the association's Directors agreed to help promote the following projects and appropriations for Fiscal Year 1995:

The Missouri River Fish and Wildlife Mitigation Program, first authorized by Congress in the Water Resources Development Act of 1988, protects fish and wildlife from the effects of channelization. When the Missouri River Bank Stabilization and Navigation Project channelized the river between Sioux City, Iowa, and St. Louis, Missouri, it severely reduced fish and wildlife habitat. For several years, Congress has been allocating money to the Corps of Engineers to buy and restore chutes, backwaters, oxbow lakes, and associated wetlands along the river for fish and wildlife. This year, the Missouri River Basin Association (MRBA) supported an appropriation of $10.1 million, the amount President Clinton recommended in his budget proposal of February 1994. In support of the appropriation, the MRBA submitted testimony to the Subcommittees on Energy and Water Development of the House and Senate Appropriation Committees.

Section 22 of the Water Resources Development Act provides federal technical planning assistance to states and Indian tribes. The program has supplemented state water management programs for several years. The MRBA submitted testimony to House and Senate subcommittees supporting the following changes to the program:

1. Exempting Indian tribes from cost-share requirements for up to five years. When the Planning Assistance to States program went into effect, the federal government paid 100% its costs. At that time, the Corps of Engineers did not recognize the tribes as sovereigns for the purposes of the program. Now that the Corps does recognize the sovereign nature of the tribes, the federal government has added an onerous cost-share requirement to the program. This means that the tribes cannot afford the desperately needed technical assistance to help them with such tasks as understanding the complicated Master Manual review or implementing water quality standards on reservations. Since the tribes were not considered to be sovereign entities, and therefore were not eligible for the program when it was fully funded by the federal government, the MRBA has asked Congress to exempt the tribes from the program's cost-share requirement for up to five years.

2. Having Congress direct the Corps of Engineers to accept in-kind services as part of the states' cost share requirement for the program. Two years ago, at our request, Congress amended Section 22 to allow the Corps to accept in-kind services from the states or tribes. The Corps interpreted the word "allow" as giving it the freedom to choose whether to accept in-kind services. This year, we are asking Congress to tighten the language in Section 22, to remove what the Corps perceives as discretionary authority concerning such in-kind services.

3. Reducing the cost-share requirement from 50% to 30%. Though not opposed to the concept of cost-sharing with the federal government, the MRBA believes the 50% cost-share requirement for this program is too expensive. State participation in the program remained steady as the cost-share requirement went from 0% to 30%. However, program participation dropped precipitously as the cost-share requirement increased to 50%. Fearing that the lack of participation may be used to justify dropping the program, the Directors agreed to ask Congress to lower the cost-share requirement back to 30%.

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The USGS Cooperative Program provides water monitoring stations on streams and wells throughout the country. The states within the Missouri River Basin rely on this data for their water management programs. The federal government has been cutting the funds for this program for years. As a result, the number of water monitoring stations has decreased significantly, and the states have less reliable data on which to base their decisions. This year, President Clinton's budget called for decreasing the USGS Cooperative Program's funding by $1.4 million. In testimony submitted to the Interior and Related Agencies Subcommittees of the House and Senate Appropriations Committees, the MRBA asked Congress to provide $63.5 million for the USGS Cooperative Program for Fiscal Year 1995. This is the same amount Congress provided in Fiscal Years 1993 and 1994.

Bank Stabilization, to prevent and correct streambank erosion in the free-flowing stretches of the Missouri River between the upper basin reservoirs, was authorized in Section 33 of the Water Resources Development Act of 1988. This year, the Directors of the MRBA asked Congress to direct the Corps to rectify the streambank erosion problems in these stretches of the river.

The Emergency Wetland Reserve Program (EWRP) was initiated in response to the extensive flooding of 1993. Although the floods were devastating in terms of their impact on human life and property, they presented an opportunity to restore some the rivers' fish and wildlife habitat. In response to the floods, Congress provided the Soil Conservation Service (SCS) with $15 million to purchase easements from willing sellers along the Missouri and Mississippi rivers. These easements would convert flood-damaged lands along the rivers into permanent wetlands.

Although the program was poorly advertised and willing sellers had less than a month to sign up, participation in the program was extraordinarily high. In fact, there was only about a third of the money needed to satisfy the demand from willing sellers during the EWRP's first offering. Last January, the MRBA asked Congress to provide substantially more funding for the program. In February, Congress passed an emergency supplemental appropriation that included, among other things, new funding for the EWRP ranging from $85 million to $170 million, depending upon the number of willing sellers.

For more information, or to sign up for the program, contact local SCS offices for guidelines, or call the MRBA for more details at (406) 542-6272.

Copies of the MRBA's testimony are available upon request.

Review and summary of John Ferrell's book, *Big Dam Era*:

Corps publishes history of Missouri River water management

by Susan Risland

On the 60th anniversary of its Missouri River Division, which manages the river basin's six mainstem dams, the U.S. Army Corps of Engineers has released a 227-page history of dams and reservoirs on the Missouri.

Big Dam Era chronicles how and why the river was dammed and how politics have affected its management. In particular, it explains how the Corps has tried to accommodate a variety of people whose interests often conflict. Author John Ferrell, currently on the Corps' public affairs staff in Omaha, predicts that contemporary issues, such as the Endangered Species Act and the question of Indians' water rights, might force the U.S. Supreme Court to rule on water management priorities in the Missouri River basin.

In the book's forward, Col. John E. Schaufelberger, Commander of the Corps' Missouri River Division, writes: "This book clearly illustrates the need for our engineers and scientists to be concerned with more than the technical aspects of projects. They must consider the social, economic, environmental, and political aspects of each undertaking."

Big Dam Era reveals how the Corps came to realize that managing a river system involves more than building and maintaining dams. From the early arguments over the Pick-Sloan plan, which became the basis for Missouri River management, to modern-day controversies that pit the environment and recreation against navigation and flood control, the Corps has had to decide when and where to hold or release water. In a region where drought and flooding can wreak havoc on the economy, control of water translates into political power. As Wyoming Senator Joseph C. O'Mahoney noted during debate over the Pick-Sloan plan in the 1940s, "Control of the water of the West is *control of the West*."

Economics

Ferrell begins his story by explaining that the six gigantic dams on the Missouri were built mainly to stimulate the region's economy after World War II. At that time, the nation feared another depression like the one that had followed the first world war.

Because many people had left the Midwest during the Great Depression, the Dust Bowl, and World War II, property values there had plummeted. Veterans returning from the war, and workers laid off as a result of industry cutbacks, caused the unemployment rate to skyrocket.

By authorizing the building of dams and related irrigation systems, Congress created jobs and encouraged industrial and agricultural development in the Missouri River basin. Federal tax money paid for the projects, on the theory that the nation would benefit from strong local economies, and members of Congress scrambled to have dams built in their home states.

The book says that in the upper basin, "Irrigation advocates argued that federally funded reclamation projects would prompt veterans and former war-industry workers to return to the region to take construction jobs, to farm the irrigated land, or to work in the support communities. Irrigated agriculture would shelter the region from drought cycles and provide single-family farms." In contrast, the lower basin called for navigation and flood control projects to stimulate the economy.

Several upper-basin sites were geographically suited for dams. Construction began in 1933 with Fort Peck Dam in Montana; followed by Garrison in North Dakota; and Oahe, Big Bend, Fort Randall and Gavins Point in South Dakota during the '40s and '50s. Congress authorized the dams through the 1944 Flood Control Act and the 1945 Rivers and Harbor Act. Because the Corps' Col. Lewis A. Pick and the Bureau of Reclamation's W.G. "Glenn" Sloan masterminded the management strategy, it became known as the Pick-Sloan plan.

The Corps built the dams as a peacetime training exercise and retained overall control of them afterward, to coordinate reservoir operations. The Missouri reservoir system is the largest in the nation, with a combined storage capacity of 74 million acre-feet and a surface area of more than one million acres. The reservoirs behind Garrison, Oahe and Fort Peck are the third, fourth and fifth largest in the country, ranking just behind those at Glen Canyon and Hoover dams on the Colorado River in Arizona.

In short, the Missouri is a huge river that drains an immense area It seemed logical to impound some of the spring runoff and use it for irrigation and hydropower in the arid upper basin instead of allowing it to flood the lower basin. During the summertime, the Corps could improve navigation and stabilize municipal and industrial water supplies in the lower basin by allowing more water to flow downstream. Although the river seemed to contain more than enough water for everyone, that assumption soon proved untrue.

From the start, the upper and lower parts of the basin have wanted to put the water to different uses. Ferrell explains that, at first, the controversy was mainly a question of irrigation versus navigation. More recently, the upper basin has stressed recreational concerns, while the lower basin has advocated navigation and flood control . The concept of multiple use has been incorporated into the river's management plan since 1927, but disagreement over priorities began with the first giant dam, Fort Peck in Montana.

Ferrell says Fort Peck's "immediate purpose was to create jobs, but its long-term function was to assure an adequate minimum flow [of water in the river] for navigation ... below Sioux City. Irrigation was not among its purposes, despite its western location and although the area was suffering from an extended drought." Irrigators promptly claimed some of the system's water, setting the stage for disputes among many people with different needs and perspectives. The Corps realized it could not limit its efforts to improving navigation on the Missouri.

Power Struggles

The Corps' emphasis on navigation intensified its long-standing disagreement with another government agency, the Bureau of Reclamation. The BOR advocated holding water upstream for its irrigation projects. Ferrell says that, although the Corps controlled the dams, the BOR contended that the agency with the dominant interest in a multi-purpose project should control that project.

As special-interest groups competed for water allocations, the BOR advocated a multiple-use approach to water management, giving preference to uses that most benefited the greatest number of people. In contrast, one of the Corps' main goals was flood control for urban areas downstream and possibly along tributary streams in the upper basin.

Much of the controversy revolved around the quest for political power. Ferrell writes, "All entities wanted multiple-purpose federally funded river basin projects, and they were willing to cooperate ... The only discord ... was over where control ultimately would be vested."

The book maintains that power struggles had been a factor from the beginning, when the President and Congress bickered about whether projects would be worth their cost but "the major issue ... was that federal agencies were presenting alternative basinwide plans, and the Executive Office wanted to wrest control from Congress."

In addition to power struggles at the federal level, the upper basin said states' rights were being trampled by federal officials interested in building levees and keeping navigation open in the lower basin, regardless of the effects on irrigation upstream. These upper-basin states worried that, if they allowed the federal government to control water within their boundaries,

they would forever lose the right to use that water.

Contemporary Issues

Big Dam Era explains how competing interests have influenced Missouri River management in the past and how they continue to affect the basin today. Ferrell writes that the Corps' current priorities include flood control, irrigation, navigation and power, while other uses, such as recreation, are considered secondary.

Although its population has stabilized, the Missouri basin is still generally rural. Because more people live in the lower basin than in the upper basin, downstream states wield more political clout. In general, downstream states, including those along the Mississippi, want water held back during flood seasons and released during periods when the river normally recedes. More water at certain times of the year keeps the river flowing deep enough for navigation, an important economic factor for these states.

Meanwhile, according to Ferrell, the upstream states want water held back to keep the reservoirs filled for recreation. They continue to press for state control of the Missouri, and they strongly support the BOR's programs, even though most Pick-Sloan irrigation projects never materialized. The Dakotas and Montana, which contain the mainstem dams, have benefited from recreation on the reservoirs. These states contend that, because the dams flooded large tracts of their land, their dependence on recreation should figure prominently into water management strategies.

The states are less clearly divided over environmental issues, which have become important throughout the basin but are of particular concern in Missouri and Montana. Creating gigantic lakes and manipulating the instream flow of the Missouri has damaged the environment in many ways. For example, the dams and reservoirs have altered the river's sediment load, rate of erosion, and fish and wildlife habitat.

Ferrell points out that fish and wildlife conservation was a factor in water planning along the Missouri as early as 1946, but until recently, economic concerns have been considered priorities. During the '60s and '70s, Congress enacted legislation to protect the environment, including the powerful Endangered Species Act of 1973, which requires federal agencies to protect fish, wildlife, plants and their habitat.

Nevertheless, the environment continues to deteriorate along the Missouri. Several species in the basin are endangered or threatened, and the book says that by 1991, "Biologists estimated that the collective density of fish was less than 20% of what once lived in the basin." Ferrell shows how the Corps has tried to comply with the conflicting requirements of the Pick-Sloan plan and the Endangered Species Act, and how the U.S. Fish and Wildlife Service has pressured the Corps to place more emphasis on environmental concerns.

Last summer's catastrophic flooding led to proposals to replace many levees and channelization projects with a natural floodway that would restore wildlife habitat and reduce property damage from high water.

Many people who were affected by flooding in the downstream states say the levees and channelization should be repaired and maintained, both for flood control and navigation. They cite the commerce clause of the U.S. Constitution, which empowers Congress to keep the navigable waters of the United States open and free as part of its duty to regulate interstate commerce.

Ferrell predicts that the U.S. Supreme Court may ultimately decide whether to give precedence to the commerce clause of the Constitution or to the Endangered Species Act and other environmental legislation.

The courts will probably also have to settle the question of Indians' water rights, which were not incorporated into the Pick-Sloan plan and have always been a point of contention. In 1908, the U.S. Supreme Court ruled that the treaties which set aside land for reservations also implied that the Indians would be entitled to sufficient water for the reservation's purposes. In addition, subsequent land settlements between Indians and the U.S. government have the status of treaties.

Ferrell explains that the 26 tribes in the basin expect the federal government to help them attain economic independence through low-cost hydropower from the big dams, some of which were built at the expense of Indian land. Indians also want the right to sell water on and off the reservation. By 1992, the question of Indians' water rights had become a major issue, a controversy that will affect everyone in the basin.

Big Dam Era provides detailed insight into the Pick-Sloan plan, the history of water management in the basin, and concerns of various special-interest groups. It describes a succession of organizations designed to help plan water management strategy, including the present-day Missouri River Basin Association. It's organized well enough that a reader can skim for general ideas and use the index to focus on points of interest. Various tables, chronologies, an explanation of how the system operates, and other data help make sense of a complex situation.

STATE REPORTS

IOWA

Governor Terry E. Branstad

The Iowa General Assembly's 1994 session is well underway, and the state's finances appear stable. That means funding might not be reduced for projects such as the Resource Enhancement and Protection Program, which provides money for state and local entities to acquire and enhance key resource areas. Steady funding is critical to the success of such efforts, which have benefited parks, prairies, wetlands and trails.

In 1994, the Iowa Safe Drinking Water Program delegation is in jeopardy. If the state does not provide adequate resources to fulfill federally mandated elements of the program, the EPA will begin proceedings to take back delegation. Two solutions have emerged.

First, the Governor has recommended appropriating an additional $500,000 from the general fund to beef up the project. The EPA regards this approach as a strong first step toward program restoration.

Second, funds from permit fees could support technical assistance, vulnerability assessments and other work that is not part of the regulatory program. If adopted, these two initiatives would greatly enhance the state's water supply program while saving local governments money by helping reduce monitoring programs.

MISSOURI

Governor Mel Carnahan

The Missouri Department of Conservation plans to release 8,000 pallid sturgeons into the Missouri and Mississippi rivers in mid-March. Spawned in April 1992 at the department's Blind Pony Hatchery, the 16- to 18-inch fish are Missouri's contribution to the national Pallid Sturgeon Recovery Team, a cooperative effort by several state and federal conservation agencies to prevent the species' extinction.

Sturgeon will be released at three sites on the Missouri River below Hermann, and at six sites on the Mississippi River downstream from St. Louis. Pallids, which may reach 80 pounds, are among Missouri's largest fish.

The fish have been big enough for release for some time, but stocking was delayed pending lab tests to determine whether they were pure pallid sturgeons or hybrid with the more common shovelnose sturgeon.

* * * * *

Dr. Doug Eiken, formerly Director of Parks for the State of North Dakota, has become Director of the Missouri Division of State Parks. He will manage a system of 79 state parks and historic sites, supported by a one-tenth cent sales tax earmarked for parks and soil erosion control. Eiken, who has participated in MRBA activities for North Dakota, will oversee at least 15 parks related to the Missouri River, including several that sustained damage during the Great Flood of 1993.

NORTH DAKOTA

Governor Edward T. Schafer

North Dakota's comprehensive State Water Management Plan is updated periodically to reflect changing hydrologic conditions, significant deviations from projected population growth rates, changing goals and objectives, and a host of other factors. The most recent update was completed in 1992.

In the interval between major updates, which usually occur every five to seven years, planning focuses on completing special studies dealing with a variety of water-related subjects or upon the completion of detailed sub-basin evaluations. An example of the latter is the Cannonball River Basin in the south-central part of the state. The Cannonball Basin is somewhat unusual for North Dakota, in that no significant water development has yet occurred, and it is also one of only five North Dakota streams where a moratorium is in place prohibiting the granting of additional water rights.

Several meetings have been held as part of the process of "scoping" a watershed study of the basin. Principal participants include the North Dakota State Water Commission, the Standing Rock Sioux Tribe, and the U.S. Bureau of Reclamation. Several state agencies, together with representatives of local water resource districts and soil conservation districts, have been involved in the scoping process.

Study objectives include, among other things:

- an inventory of surface water availability and distribution patterns
- an inventory and assessment of groundwater quality, together with both point- and non-point pollution sources
- the development of baseline conditions with respect to the area's hydrology (water budget), socio-economic data, cultural resources, and demographics
- the identification of the area's major water resource-related problems and opportunities, and
- the evaluation of various potential funding mechanisms.

The evaluation, which is expected to span approximately three years, does not involve the quantification of Indian water rights on the Standing Rock Reservation.

SOUTH DAKOTA

Governor Walter D. Miller

The legislature has passed SB265, commonly referred to as the Omnibus Water Bill, which authorizes $10.27 million for water development, solid waste management, and groundwater protection.

The Board of Water and Natural Resources approves all expenditures through this program as grants or loans. The programs that received the most money under the bill were:

- Consolidated Water Facilities Construction Program, $5.5 million grant/loan.
- Solid Waste Management Grant Program, $1.15 million grant.
- Mid-Dakota rural Water System, $1 million grant.
- Mni Wiconi Rural Water System, $1 million loan.

Through the Omnibus Bill, the legislature added the Bad River Watershed project to the State Water Resources Management System list as a major development priority. The WEB project was removed from the list, because construction on it has been completed.

The U.S. Congress is considering several bills that would re-authorize the federal Safe Drinking Water Act to include a State Revolving Fund (SRF). The SRF program would provide loans to construct and upgrade drinking water systems. The South Dakota legislature has passed HB1097 to allow the state to implement a Drinking Water State Revolving Fund as soon as Congress acts. The program will parallel the Wastewater/Nonpoint Source SRF program, administered by the Division of Water Resources Management.

WYOMING

Governor Mike Sullivan

The Wyoming state legislature met for a 20-day budget session, Feb. 21-March 18, and discussed several bills dealing with the state's water management and administration. Two water development bills have been introduced, authorizing funds for projects being completed under the Wyoming Water Development Commission.

The planning bill totals $7.36 million, including $4 million for continued litigation on the administration of the North Platte River. That bill also includes $265,000 for the state engineer's office to continue assessing the Madison aquifer in northeastern Wyoming.

The water development construction bill totals $15.7 million, including funding for the state engineer's office to help assess the Gillette area's water supply and to rehabilitate gages on the North Platte River.

A bill has also been introduced to appropriate $883,500 to develop a recreation pool at Keyhole Reservoir and State Park on the Bell Fourche River in northeastern Wyoming. This project involves using 25,000 acre-feet in the reservoir's sediment pool space to store water that Wyoming purchased to help stabilize reservoir levels for recreation.

MRBA elects new president

Jim Brown was elected president of the MRBA's board of directors at the last meeting. Jim is the Iowa State Water Coordinator and is involved in water resource issues in both the Missouri and Mississippi river basins. He has been a member of the board for about 10 years, and this is his second term as president.

Jim is a native of Wisconsin and came to work for Iowa in 1972. His background includes a Master's degree in chemistry from Penn State University and a law degree from the University of Virginia. He has worked as a chemist in the private sector and with the EPA. While his current interests are in river issues, his overriding desire is to find effective ways for basin representatives to work together for their common benefit.

Jim succeeds Dave Sprynczynatyk, who completed two successive one-year terms as the MRBA's president. Dave, the North Dakota State Engineer, continues to represent his state on the MRBA's board of directors.

MEETINGS, ETC.

- *Symposium: Water For Wildlife*, **April 27-29**, Laramie WY. Sponsored in part by the Water For Wildlife Foundation, the Bureau of Land Management, and the University of Wyoming. Contact Susan Powell, School of Extended Studies & Public Service, P.O. Box 3972, Laramie WY 82071-3972; phone 1-800-448-7801.

- *Conference: Drought Management in a Changing West*, **May 11-13**, Portland OR. Richard Opper (Missouri River Basin Association) and Arvid Thomsen (Corps of Engineers) will be among the featured speakers. Hosted by Western Regional Climate Center, Desert Research Institute, Reno NV; West National Technical Center, SCS/USDA, Portland OR; and International Drought Information Center, Universityof Nebraska, Lincoln NE. Contact Western Drought Conference, International Drought Information Center, 241 Chase Hall, University of Nebraska, P.O. Box 830728, Lincoln NE 68583-0728, phone 402-472-6707; fax 402-472-6614.

Floods were a blessing for fish in the Missouri

by Tim Renken
(reprinted from St. Louis Post-Dispatch, Jan. 16, 1994)

Duck hunting wasn't very good on the Missouri River last fall after the summer's floods, so one nice day last November Chris Korschgen and his father, Leroy, of Columbia, decided to go fishing instead. They wanted to see what would happen if they dunked a few worms in a washout hole created by the flood in a field adjacent to the river.

"We caught two limits of channel cat in pretty short order," said Leroy, 72, a retired state employee. The fish ranged in size from a pound to five pounds. Another day they fished another washout hole nearby and had the same luck.

"One of these was a wonderful-looking place, full of washed-in trees. The other was just a swirl off the river," he said. "It's amazing how fast the fish went in there."

Not really, said Gordon Farabee, big-river biologist for the Missouri Department of Conservation. Those washouts, hundreds of which were created by the river's record rampage, are an essential but scarce kind of habitat on the channelized Missouri. They are sanctuary from the swift-flowing current, an almost missing link in the habitat requirements for all kinds of fish, including bass, crappie and bluegill.

Those two washouts, called blue holes, are not oddities on the 500-some miles of the river now.

When Farabee flew the length of the river last fall, he counted 68 that were still attached to the river and saw many more isolated when the river went down. They ranged in size from four to 60 acres. Many contained fallen trees. All, judging from the Korschgens' experience, presumably contain fish.

Many, Farabee said, will provide fishing to anglers this season, but that is just one of the reasons they are important.

"They could transform the river for wildlife and recreation," he said. "They could undo a little of the damage done by 100 years of channelization."

Bill Dieffenbach, a planner for the MDC, said that the flood, though it was a disaster for those who live and farm along the Missouri, provides an opportunity of incalculable value for wildlife conservation.

"Originally, before the Navigation and Bank Stabilization project began in the 1940s, the river was a wildlife paradise with many side channels, islands, marshes and places for all kinds of wild critters," he said.

"In trying to turn the river into a transportation artery, the Corps of Engineers used pilings and dikes to shorten, narrow and confine it into a narrow, swift-flowing ditch. In the process, thousands of acres of what had been riverine habitat were converted to cropland.

"The great flood of '93 undid a lot of that, ripping through dikes, reclaiming old channels. In many places it recreated old channels and exposed pilings and dikes that haven't seen sunlight in 40 years. Where the flood force was greatest, usually where levees failed, the river washed out those holes, some 60 feet deep. Places that last winter were soybean fields are sloughs and side channels now. It's like the Missouri turned back the clock 30 or 40 years."

Dieffenbach said he wants to see what has been called a state disaster turned into a once-in-a-lifetime opportunity.

"Trying to put the Missouri flood plain back to what it was before the flood will cost billions, and when the next flood comes along we'll just have to do it all over again," he said.

What Dieffenbach and others in the conservation community would like to see is, first of all, preservation of the blue holes.

They provide spawning habitat for shad and other creatures and rest areas out of the current for catfish, carp and drum, which need such spots, especially in the winter when their metabolism slows. Eventually the holes will become populated with bass, crappies and bluegill.

"If those levees are rebuilt – and I don't know where the money is going to come from to do that – it would be far cheaper to build them around the blue holes rather than try to fill them in," he said.

Where the river has cut new side channels, whole areas of the flood plain could be retained as marshes and backwaters, he said.

"Many of the fields are so covered with sand they'll never produce crops again," Dieffenbach said. "We shouldn't spend a fortune to protect worthless fields. I'd like to see us acquire, from willing sellers, whole stretches of river-bend areas and turn them back to nature. If we did enough of that, the next flood would be a natural blessing rather than a disaster."

Farabee said that fishing on the Missouri will be better this season than the last,but the real change will come in two or three years as fish such as bass and crappie have a chance to utilize all the new spawning habitat.

"We didn't have much of that kind of habitat before. Now we've got a lot," he said. "How long those effects will last will depend on how much of the acreage remains as wetland."

Coordination Directory Available

The Missouri River Basin Association has updated the Coordination Directory, a listing of key water management personnel, addresses and phone numbers from Missouri Basin state, tribal and federal agencies. To order copies, send a check or money order for $25 per copy (to cover costs of production) to the Missouri River Basin Association, P.O. Box 9193, Missoula, MT 59807. The publication will be updated periodically as needed.

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Susan Risland, Executive Assistant

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SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
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Corps drafts preferred alternative for Master Manual

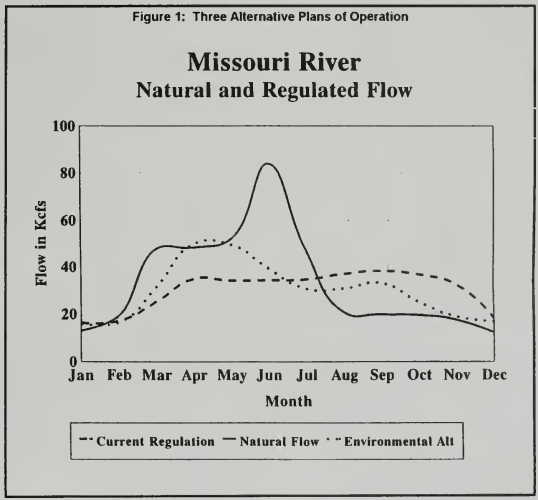
by Susan Risland

Higher water in the springtime and a shorter navigation season would benefit the environment and the recreation industry without substantially harming the economy along the Missouri River, according to the U.S. Army Corps of Engineers.

The Corps recently published preliminary results of its study on possible revisions to the Missouri River Master Water Control Manual (the Master Manual), the operating plan that dictates how the river will be managed. Using sophisticated computer simulations, the Corps analyzed the impact of holding more or less water behind the river's six mainstem dams at various seasons.

After years of research and analysis, the Corps has made a preliminary selection of a preferred water control plan that simulates the river's natural ebb-and flow, including a period of moderately high water in the spring and low water in late autumn. Currently, the river is kept at a relatively steady depth between April and November (Figure 1).

Figure 1: Three Alternative Plans of Operation



Background: Master Manual

The Master Manual has established management priorities and served as an overall plan of operations for the Missouri River since the Corps first drafted it in 1960. At that time, its priorities included flood control, hydropower, water supply and navigation along the lower reaches of the river. Although the Corps writes annual operating plans for the Missouri, these plans generally comply with the provisions of the Master Manual.

Throughout the '60s and '70s, precipitation remained near average in the basin, and the manual served its purpose without facing a major crisis. During those 20 years, the Master Manual went through several minor revisions, but its priorities changed very little.

Then came the first serious drought since the reservoir system filled with water in 1967. Between 1987 and 1993, the basin received only about two-thirds of its normal precipitation. This drought, which was almost as severe but half as long as the drought of the Dust Bowl era, strained the reservoir system. It was the first significant test of the drought management criteria in the Master Manual

As competing interests claimed the dwindling water in the Missouri, the Corps weathered a flurry of lawsuits. At least half of the states along the river contended that the Master Manual had failed as a drought management tool and should be re-evaluated. In 1989, under pressure from governors of states in the upper basin, the Corps launched a comprehensive

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review of the entire Master Manual, easily the most in-depth study of the manual since its inception 30 years ago.

The Nature of the Study

Various public agencies, states and other entities have participated in the Master Manual review. The project is scheduled for completion early next year and has already gone through several stages, including research, the development of alternative plans, and assessments of economic, environmental and social impacts. The Corps expects to release a Draft Environmental Impact Statement (DEIS) on the Master Manual for public review and comment in mid-July. In addition, it will consider comments during public information hearings that it will sponsor throughout the river basin this autumn.

The research stage of the Master Manual review considered data on weather, floods and other factors that have affected the Missouri during the past hundred years. Researchers incorporated that data into computer simulations to project what would happen if various management criteria were changed. Using those projections, the Corps formulated several hundred alternatives to the current plan for managing the Missouri.

The Corps evaluated the economic and environmental impacts of each plan. Economic factors included flood control, navigation, production of hydropower, recreation, and water supply, including irrigation. Environmental factors included historic properties, wetlands and riparian areas, tern and plover habitat, reservoir fisheries and riverine fisheries. The Corps projected a best possible scenario for each factor, compared it to that factor's status under the current plan, and predicted how each factor would fare under the alternative plans.

Unfortunately, improvements to one economic or environmental factor often come at the expense of another. For example, the water needs of upstream recreation conflict with those of downstream navigation. And the water needs of endangered bird species often compete with those of the river's fish.

In selecting the preliminary preferred plan, the Corps tried to strike a reasonable balance between economic and environmental considerations. Although many aspects of the original Master Manual have withstood the test of time and needed little change, the document's authors had no way of anticipating exactly how priorities would shift between 1960 and 1994. For example, the Endangered Species Act has become a prominent factor that greatly affects the management of the Missouri.

Several threatened or endangered species had to be considered during the review. As a participant in the study, the U.S. Fish and Wildlife Service listed wetlands and physical habitat for native fish, terns and plover as the most important environmental parameters on the Missouri. To restore the river's ecosystem, the agency recommended a plan that would mimic the river's natural cycles, since fish and wildlife depend heavily on high and low water flows at the proper seasons.

The water level in the reservoirs was another consideration in the study. The Corps had to decide how much water to retain in storage permanently and how to allot the remaining water to various competing interests.

The Master Manual designates four specific levels of water in the reservoirs. The Corps did not consider altering the size of the upper two levels, which play a vital role in flood

Figure 2: Current Plan Compared to Preferred Alternative, Economic Values

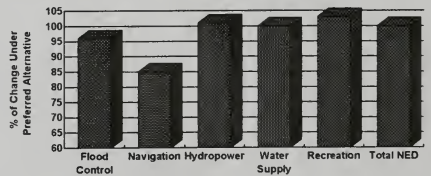
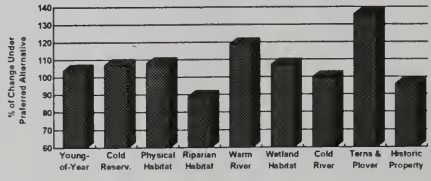


Figure 3: Current Plan Compared to Preferred Alternative, Environmental Values



protection. However, it did consider changing the third and fourth units, the *carryover multiple use zone* and the *permanent pool*.

Conclusions of Corps' Study

After nearly five years of study, the Corps selected a preferred alternative that leaves most variables virtually unchanged but significantly affects other factors, such as tern/plover habitat and navigation. (See Figures 2, 3 and, 4.) To benefit the environment, the proposed plan simulates the river's natural spring rise, shortens the navigation season by one month in the fall, and changes the way water is distributed among the system's upper three reservoirs.

Here are a few details explaining how the preferred alternative would change the current management strategy:

Normal navigation season length is currently eight months, from April 1 to December 1, but is extended into December if excess water must be released from the reservoirs. Navigation requires an adequate depth of water in the river, which in turn requires releases from upstream dams. During droughts, the navigation season is shortened to conserve water. The preferred alternative would shorten the season by one month every year and would shorten it sooner during droughts.

Navigation service level is water released from the mainstem reservoirs to support navigation between Sioux City, Iowa, and St. Louis, Missouri. *Full navigation service level* provides 9 feet of water depth (8.5 feet of navigation draft). *Minimum navigation service level* provides 8 feet of depth (7.5 feet of navigation draft). During droughts, the Corps conserves water by holding it behind dams upstream, causing a lower navigation service level downstream. The preferred alternative would conserve water sooner during droughts.

Non-navigation minimum service level is the minimum amount of water that is provided when navigation is not being supported. The review considered the effects of maintaining a higher minimum non-navigation service level. Since raising that level would cause significant losses in other areas, the preferred alternative recommends leaving this service level as it is.

Permanent pool is the minimum amount of water that must be retained in the reservoirs, even during droughts. The review studied the effects of raising the permanent pool to various levels, but the preferred alternative recommends leaving it unchanged.

Intrasystem regulation is management strategy for distributing water among the three upper reservoirs on the Missouri. Those three reservoirs contain almost all the water that is released during droughts to raise the level of the river downstream. Currently, water is equally distributed among the three. The Corps' preferred alternative would draw down each of the three reservoirs in successive years, allowing the other two a period of recovery in between.

Spring rise is a period of high water in springtime that would mimic the river's natural flooding. A moderate spring rise during the rainy season is not part of the present management strategy but is part of the preferred alternative. It would greatly benefit certain fish and wildlife species without causing destructive floods downstream. However, some species require the very high water from mountain snowmelt, which naturally occurs in early June and which is not part of the preferred alternative.

Flood control holds water behind upstream dams to prevent flooding downstream. The current Master Manual calls for two flood control constraints when the river rises to specific levels at Omaha, Nebraska City or Kansas City. The river levels that trigger flood control contraints would be higher under the preferred alternative, to allow for the recommended spring rise.

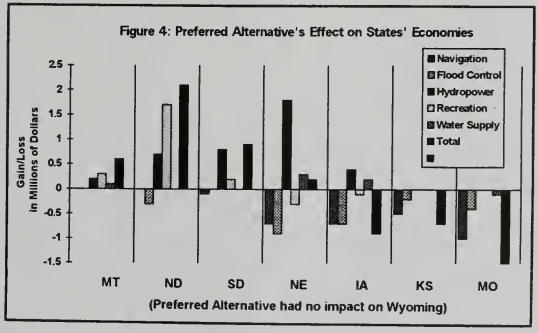


Figure 4: Preferred Alternative's Effect on States' Economies

Summary

Essentially, the preferred alternative would leave much of the Master Manual as it is. It calls for a moderate spring rise to benefit fish and wildlife, along with a period of low water in summer and autumn, and a navigation season shortened by one month. During droughts, it would conserve water by shortening the navigation season and lowering the navigation service level sooner than the current manual does. Finally, by drawing down the three upper reservoirs in turn instead of drawing them all down at once, it would allow

fish and wildlife there to recover during two out of every three years.

There is still time for public comment on revisions to the Master Manual. For information on draft EIS hearings, call Paul Johnston, Public Affairs Office, Missouri River Division of the Army Corps of Engineers, (402) 221-7208.

FEDERAL REPORTS

ENVIRONMENTAL PROTECTION AGENCY

S. 1114, a Senate bill to reauthorize the Clean Water Act, has been reprinted and given a new number, S. 2093. The Senate Environment and Public Works Committee published an accompanying report that includes minority views. Montana's Senator Max Baucus originally introduced the bill, which could go to the Senate floor by mid-June.

A subcommittee of the House Public Works and Transportation Committee held hearings on the Clean Water Act during the week of May 23. The committee is considering more than one bill on the subject and could deliver its mark-up by mid- to late June, after deliberation on proposed amendments to the Superfund program.

The Senate approved S.2019, a bill to reauthorize the Safe Drinking Water Act, on May 19. There were a number of floor amendments on various issues, such as elevating the EPA Administrator to the rank of a Presidential Cabinet official, authorizing a $6.6 billion State Revolving Fund through the year 2000, and including provisions dealing with risk assessment and "takings" (federal authority over private land). The House has not taken significant action on this bill.

The EPA's budget is controlled by an appropriations subcommittee called VA, HUD and Independent Agencies. This House subcommittee is scheduled to begin mark-up on 1995 appropriations by June 9.

FISH AND WILDLIFE SERVICE

Section 7 of the Endangered Species Act requires federal agencies to consult with the Fish and Wildlife Service (FWS) on proposed actions that might affect endangered species. Normally, formal consultations are conducted after a preferred alternative is selected and a draft environmental impact statement (EIS) is completed. However, for the Master Manual Review, Col. Schanfelberger and FWS Region 6 Director Morgenweck initiated formal consultation early.

They also agreed that the FWS's draft biological opinion would be developed at the same time as the Corps' Draft EIS on the Master Manual, with both documents scheduled for release in late summer or early autumn. Regions 6 and 3 of the FWS propose to complete their consultation on the preferred alternative and to draft a biological opinion by August 9, about 60 days after they receive all Corps data on the preferred alternative.

This spring, the Corps kept the FWS apprised of its progress as it developed environmental alternatives that would improve habitat for native river fish while limiting the cost to navigation, as measured from the baseline. The FWS in turn evaluated the impacts of the current environmental alternative flow series, permanent pool levels, and other variables on fish and wildlife in the Missouri River ecosystem, in general, and specifically on threatened and endangered species.

In May, the Corps announced a preferred alternative that is a hybrid of other environmental alternatives it developed. The preferred alternative calls for releasing more water from Gavins Point Dam in the spring to mimic a natural hydrograph, reducing the navigation season length from eight to seven months, and modifying the intrasystem regulation of the upper three reservoirs to benefit fish.

A cursory review of the preferred alternative indicates that it represents a positive environmental change in the operation of the system, but it falls short of recommendations in the FWS's biological significance letter

STATE REPORTS

IOWA

Governor Terry E. Branstad

Now that the 1994 session of the General Assembly has ended, the state has embarked on a major improvement to its drinking water programs. A new funding system should help the state meet both federal mandates and local needs.

To more effectively administer the federal Safe Drinking Water Program, Iowa decided to allocate more funds for water supply. The EPA had claimed that Iowa's water supply management team was too small to accomplish the program's requirements. It had warned that, unless Iowa dedicated more resources to the task, the federal agency might withdraw the state's authority to administer the program.

At the local level, water supply officials stressed their need for techni-

cal assistance. Such assistance is a key concern because Iowa has hundreds of very small systems that cannot retain personnel who have the training to understand complex federal laws. In addition, the state could save money in the long run by allocating money to identify water supplies that are not highly vulnerable to contamination. Since those water sources would not have to be monitored as closely as they are now, the state could save millions of dollars within a few years.

To address federal and local issues, the General Assembly adopted dual funding for Iowa's water supply. It appropriated additional general funds that will allow the Iowa Department of Natural Resources to fulfill federal mandates. To satisfy local needs, it established a fund for technical assistance and vulnerability assessments. Fees from water supply permits will finance that program. Iowa's new funding system adds about $900,000 to state water-supply programs.

The legislature allocated additional funding to the Resource Enhancement and Protection Program, REAP, which will pay for more improvements to existing facilities or land protected from development that would destroy some unique natural resources. With the additional funding, the program has more than $8 million for FY 95, which assures continued commitment to this effort. Since REAP provides dollars to every county, it is an important funding source for projects along the Missouri River as well. REAP money has been used for everything from beach facilities at Lewis and Clark State Park to the purchase of land in the Loess Hills, a unique geological formation in Iowa along the river.

Iowa's water resources professionals spend a great deal of time responding to the federal government The floods of 1993 resulted in the flood of paper in 1994. Several federal studies have focused on quantifying the impacts of the flooding and assessing how the government can improve its response to flooding. Iowa is trying to ensure its involvement in reviewing the results of these studies, since changes in programs and how they are delivered could seriously affect the state during disasters.

On the Missouri River, the Missouri River Mitigation Project has not yet become a reality. A lack of contracting bids has delayed work on the first Iowa site at the Louisville Bend wetlands restoration project. It's possible that contractors have not bid because they have been too busy repairing levees damaged in last year's floods.

MONTANA

Governor Marc Racicot

For several years, the state of Montana has been studying various methods to repair the unsafe Tongue River Dam and, if possible, increase its storage capacity. The dam, about 10 miles north of the Montana-Wyoming border, is one of 40 water development projects owned by the state of Montana.

The existing dam is 91 feet high and has a crest length of 1824 feet. The reservoir has a surface area of 3,500 acres and impounds nearly 70,000 acre-feet of water.

The preferred alternative to enlarge the project calls for building a new spillway that would raise the reservoir level by four feet. That increase would allow the storage of an additional 20,000 acre-feet of water per year, which would be made available to the Northern Cheyenne Tribe as part of the recent settlement of its federally reserved water rights.

When Congress passed the Northern Cheyenne Reserved Water Rights Settlement Act of 1992, it ratified the state's compact with the tribe and authorized federal cost-share funding to repair and enlarge the project. Total project costs are estimated at $52.2 million

The state of Montana, the Northern Cheyenne Tribe, the U.S. Bureau of Reclamation and other state and federal agencies are presently developing an Environmental Impact Statement for the repair and enlargement of the project. The EIS is scheduled for completion early next year. Construction is expected to begin in 1996 and take approximately two years.

NORTH DAKOTA

Governor Edward T. Schafer

In an attempt to make the best use of the state's limited water and money, the North Dakota State Water Commission and the Bureau of Reclamation's Water Conservation Center are developing a water conservation plan for North Dakota. The center has surveyed states and cities nationwide to discover criteria and methodologies for developing water conservation plans.

A small group is planning a state water conservation plan workshop to help state employees learn how to develop a water conservation plan for their areas. An informal roundtable format will encourage interaction among the participants and the discussion leaders. The workshop, which may take place this fall, will address:

- the need for a water conservation plan, and how to develop one
- alternative water conservation measures and how to select them
- how states can benefit from conservation, and how to explain those benefits to the public
- how to monitor, evaluate and fund a water conservation program

SOUTH DAKOTA

Governor Walter D. Miller

More than 180,500 people in South Dakota, Iowa and Minnesota will be drinking water from the Missouri River if Congress approves construction of the Lewis and Clark

Rural Water System. Senators from the three states introduced the legislation this spring, hoping to alleviate a chronic shortage of water that continues to pose a health threat and to stunt the region's economy. The project would deliver water to Turner, Lincoln, McCook and Minnehaha counties.

South Dakota's two senators also advocated expanding the Mni Wiconi Rural Water Project into the Rosebud and Lower Brule Sioux Reservations, where aquifers are not supplying adequate drinking water.

South Dakota water projects will receive $50.6 million under the Energy and Water Development Appropriations Bill recently approved by the U.S. House Appropriations Committee. Congress cut $1.3 billion from the bill but did approve funding for several South Dakota projects, including $17 million for the Mni Wiconi Project; $3 million for the Belle Fourche Irrigation Project; $1.4 million for Lake Traverse, Cottonwood Springs Lake, Big Stone Lake and Cold Brook Lake; $100,000 for the Black Hills Hydrology Study; $100,000 for Oahe Reservoir; and $28,000 for various dams on the Missouri River.

WYOMING

Governor Mike Sullivan

Ranchers and environmentalists in Wyoming have expressed their dissatisfaction with the Interior Department's proposal to revamp public range land management. In response, Governor Sullivan named a small task force, including Wyoming State Engineer Jeff Fassett, to discuss tailoring the reform to address the state's problems and resources. In Colorado, Governor Roy Romer assembled a similiar group to discuss changes that would make the reform package more workable there.

Early versions of the reform package have already been revised, eliminating many concerns about water rights and the handling of water resources on BLM lands. In Wyoming, water rights attach to the land. Therefore, the applicant for the water right is not as important as the actual ownership of the parcel where the water is being put to beneficial use. Where stock water reservoirs exist on BLM lands, the water right attaches to land controlled by the federal government. In the past, Wyoming has sometimes granted joint water rights for BLM lands where both the federal government and the livestock permittee were shown as applicants for the water right. Bruce Babbitt, Secretary of the Interior, attended the task force's meeting in February and expressed support for Wyoming's method of administering water rights on BLM lands.

The task force has not yet reached agreement on many other issues being discussed for the reform package. However, most participants agree that the revisions make the reform package flexible enough to accommodate water laws in different states, including Wyoming.

Feds re-think levees, wetlands, property buy-outs & insurance

Task force recommends floodplain changes

by Susan Risland

The federal government should establish a national model for floodplain management and recognize states as the nation's principal floodplain managers, according to a draft report submitted on May 27 to President Clinton's task force on floodplain management.

In the aftermath of last year's devastating Midwestern floods, the Interagency Floodplain Management Review Committee recommended that the nation develop guidelines to allow some lowland flooding and restrict development in floodplains. However, the report also advocated protecting urban areas with high levees and maintaining low levees to protect certain rural areas from relatively small floods.

To coordinate water management efforts among federal, state and tribal agencies, the committee suggested reactivating the Water Resources Council and re-establishing river basin commissions similar to the Missouri River Basin Association.

The committee worked under the Clinton Administration's Task Force on Floodplain Management, organized in response to the floods of 1993, which cost 38 lives and $12 billion to $16 billion, not counting lost taxes, lost income and other factors. After five months of examining the catastrophy's causes and effects, the committee presented its findings to the Senate Public Works and Environment Committee, chaired by Max Baucus, D-Mont.

Warning that "rainfall and floods like the 1993 event will continue to occur," and that levees cannot guarantee protection from such events, the report lists three major problems caused by uncoordinated development in river basins:

- Despite efforts to control the nation's great rivers, floods still threaten people and property. Many Americans who live near rivers neither understand the risk

nor fully share the financial consequences of building in the floodplain.

- The tremendous loss of habitat over the past two centuries has severely damaged the Mississippi River Basin's fragile ecosystems.
- A patchwork of federal, state, local and tribal governments manages floodplains inconsistently and without interagency coordination.

The committee recommended that the federal government should share floodplain management and funding with all levels of government and with the nation's citizens.

"The federal government cannot go it alone nor should it take a dominant role in the process," according to the executive summary. "With the federal government assuming the dominant role and funding most ecosystem restoration, flood damage reduction and recovery activities, the incentive has been limited for many state, tribal and local governments, businesses and private citizens to share responsibility for making wise decisions concerning floodplain activity."

Traditionally, the federal government has dominated floodplain management, which emphasized levees and other major structures designed to contain rivers. Now that the nation is leaning toward a more natural approach that would re-establish floodways and wetlands, other governments can play a more active role in managing floodplains.

The report notes that federal programs and regulations, which are sometimes "uncoordinated and conflicting," have occasionally prevented state, local and tribal floodplain management programs from operating as efficiently as they could

Under the proposed reorganization of authority, states would take the lead in floodplain management. The federal government would help finance state and local floodplain management but would not bear the entire cost. With some of their own money at risk, state and local governments would have an incentive to become more involved. Federal cost-share money would help states, Indian tribes and local governments fund their disaster strategies.

The federal government would lead the way to better flood control by coordinating its own efforts throughout the Mississippi Basin, including the Missouri River drainage. It would strive to balance economic, social and environmental goals and to use science and technology to better advantage.

Governments would strongly discourage certain uses of floodplains and would fund buy-out programs for some land and buildings in floodprone areas. Many buildings would be moved to higher ground, along with wastewater treatment plants, roads, bridges and other critical infrastructure. Wetlands and other low-lying areas would flood periodically, absorbing excess water. Some of those areas would be used for agriculture, parks and other human activities. Conservation easements and other agreements would guarantee habitat for wildlife and fish.

The committee proposed establishing the upper Mississippi Basin as a cross-agency Ecosystem Management Demonstration Project and charging the Interior Department with analyzing ecosystems needs there. The new policies could benefit the environment and help reduce flood damages at the same time.

The report noted that changes to the landscape, including loss of wetlands and upland cover, have damaged the ecosystem and dramatically increased runoff and consequent flooding throughout the basin. It added that, although wetlands and other natural flood zones probably couldn't have absorbed enough water to help much during last year's catastrophic flooding, they could reduce the impact of 25-year floods.

Although the plan advocated some natural flooding of lowlands, it also promoted levees and other flood-control structures. The committee noted that, during 1993, reservoirs, levees and other projects significantly reduced flood damages in many areas, particularly urban regions. However, many locally constructed levees failed, and in some cases, levees contributed to the damage. The committee suggested that governments should more closely supervise non-federal levees and keep closer tabs on the performance of federal structures.

The committee reported that, with or without levees, the Missouri and Mississippi rivers would have inundated a large percentage of their floodplains in 1993. Since such events are apt to happen again, the report suggested revising insurance policies so that individuals would have to accept responsibility for their decision to build in the floodplain. People most at risk from floods would pay more for flood insurance, and those who bought no insurance would receive minimal government assistance after a disaster

The task force's recommendations have been submitted to the Clinton Administration, which is now considering whether to act on them.

To receive a detailed executive summary of the report, write to the Galloway Committee, 730 Jackson Place NW, Washington DC 20503, or call (202) 408-5295.

Coordination Directory Available

The Missouri River Basin Association has updated the Coordination Directory, a listing of key water management personnel, addresses and phone numbers from Missouri Basin state, tribal and federal agencies. To order copies, send a check or money order for $25 per copy (to cover costs of production) to the Missouri River Basin Association, P.O. Box 9193, Missoula, MT 59807. The publication will be updated periodically as needed.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Executive Assistant

MRBA OFFICERS:
PRESIDENT: Jim Brown, Iowa State Water Coordinator
VICE PRESIDENT: Mark Simonich, Director, Montana Dept. of Natural Resources & Conservation
SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
Dave Sprynczynatyk, North Dakota State Engineer
Reese Peck, Deputy Secretary, SD Dept. of Environment & Natural Resources
David Pope, Chief Engineer, Kansas Division of Water Resources
David Shorr, Director, Missouri Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Woody Corbine, Mni Sose Tribal Water Rights Coalition, Rapid City, SD

FEDERAL REPRESENTATIVES:
Arvid Thomsen, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
Ron Ritter, U.S. Environmental Protection Agency
William Kastner, U.S. Geologic Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT-Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX (406) 542-7585

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NOVEMBER 1994

Corps' regional leader urges vision for the future

Colonel Thuss challenges residents of Missouri Basin to work together

(As Commander of the Missouri River Division of the U.S. Army Corps of Engineers, Col. Michael F. Thuss supervises all Corps activities in the Missouri Basin. He was named Commander after the recent retirement of his predecessor, Col. John E. Schaufelberger. Col. Thuss delivered the following address to the Directors of the Missouri River Basin Association during a meeting in Bismarck, North Dakota, on October 17.)

The Missouri River Watershed: Basin at a Crossroads

The story of the Missouri River Basin is a story of remarkable contrasts. It is a story of triumph and tragedy, of beauty and austerity, of bounty and scarcity. It is a story of a great river in a vast land stretching from plains to mountains, embracing expanses both wild and populous. It is the story of courageous people, both humble and proud, of Native Americans who sacrificed much in the name of progress; of soldiers and explorers who risked lives and fortunes to prepare America for westward expansion; of settlers and farmers who harnessed the harsh frontier and prepared it for the pursuit of the nation's destiny; and of entrepreneurs, railroaders, and navigators who developed the region's natural resources. And central to it all is the regulation of the once-raging torrent called the Missouri River, a river that, despite people's best efforts to humble, always reminds us of its dominion.

Today this northern Great Plains basin, spanning 10 states, and home to 14 million Americans, as well as amazing cultural and natural diversity, stands at a crossroads, sounding an uncertain trumpet. Much of this vast land is still pristine. Large areas of it are developed and dependent upon the economic and technological infrastructure that has been built over nearly two centuries.

The region has played its part fully in the industrialization and defense of America. It has become the "bread-basket of the world." It has exported its values of freedom, justice, and respect for cultural and natural dignity to the whole world. And the Missouri River has become a major artery of interstate and international commerce. To be sure, nature has paid a price for this regional success story, as have some of its residents.

Now, those who have sacrificed much and worked hard to help the region take its rightful place in the national and international economies are being asked to decide the basin's course for the beginning of its third century as part of the United States. Will we weather the storms of "downsizing" and a modest national economy by moderating or deferring development; or will we continue the present economic course, despite major changes in the economies of the region, nation, and the world; or will we adjust course to pursue a bold new vision of the region's future? Whatever the choice, it cannot be made without also deciding what role the great river that lends its name to the basin is to play.

Justice Oliver Wendell Holmes once said, "A river is more than an amenity; it is a treasure." If that is true, it is clear that the Missouri River is a national treasure, and the blueprint for tomorrow must have a national component. But it is the people of the basin, including the tribes, and their political representatives, who have a sacred trust to design a process for formulating a vision for the future, arrive at general consensus, define goals and objectives, and develop the institutions necessary to pursue that vision into the desired future. Central to that effort must be clarity of purpose, shared commitment, general cooperation, and the perseverance to stay the course until the vision is realized

If a grand vision for the region is to be pursued, one that seeks sustainable economic, environmental, and cultural growth, capital investment, jobs, and quality of life, it must be pursued by a cooperative partnership that is able to muster the vast resources of the region – financial, educational, natural, business, governmental and institutional – to the cause. Moreover, the effort must have political support at all levels of government, federal, regional, state, local, and tribal. It must do more than just pay lip-service to the concept of environmentally sustainable economic development; it must truly be sensitive to the needs of the environment and the people whose long-term health, safety, and welfare depend upon clean air, water, and land.

Is there enough for all to share meaningfully in such a grand vision for the Missouri Basin? I think there is. But a renewed commitment by and to the people of the region will be required.

How can we begin such an ambitious endeavor? Perhaps we already have. The Draft Master Manual Environmental Impact Statement represents a major effort to collect and analyze a huge amount of information on the environmental, economic, cultural, and natural resources associated with the operation of the Missouri River. While it is already evident that some additional data gathering and analysis are necessary to complete an EIS, when completed, that EIS can serve as the cornerstone upon which to build a much broader study of regional needs. Before the Corps of Engineers could assist with an actual regional plan, however, several things would have to happen, including:

- General agreement (not necessarily total) by participating elements of the federal government, states and tribes, on a regional institution, such as the Missouri River Basin Association, to serve as the regional point of contact, to supervise and provide guidance to promulgate a vision statement and articulate a scope of work for a basin-wide regional plan. This scope should describe an institutional mechanism to speak for the basin during the study and to coordinate participant input (financial and informational) and public participation.
- Authorization and funding to help the region develop a vision and scope of work for a basin-wide regional plan.
- Identification of specific partners for cost-sharing.
- Authorization and funding to finance the federal share of the planning study and its components.
- Regional support for authorization and funding.

We again have a choice. We can continue the process we are currently in, which at best leads to conflict and a win-lose situation, or at worst, a lose-lose situation. Or we can enter into a partnership – a partnership between the peoples of the states and tribes and their public servants, on a regional basis, which recognizes the needs and wants of all our peoples, cultures, and natural treasures, and works together toward the realization of a common vision, maximizing the pursuit of happiness for all. If Lewis and Clark, and the Native Americans they met, returned in the year 2004, the 200th anniversary of the expedition, which choice would they say we made?

Fewer levees, restructured insurance, emphasis on environment and recreation

Floodplain bill dies in Senate

by Susan Risland

A bill that would have revamped water management policies in the nation's river basins, particularly the Missouri and Mississippi drainages, recently died in the Senate.

S.2418, introduced by Max Baucus (D-MT), attempted to incorporate recommendations on floodplain management into the 1994 Water Resources Development Act (WRDA).

The Baucus bill drew heavily from this summer's Galloway Report, which was compiled by an interagency floodplain management review committee in response to last year's catastrophic flooding. S.2418, known as the Floodplain Management, Environmental Restoration, and Recreation Act of 1994, would have restructured the administration of the nation's river basins, authorized various new studies and programs, emphasized non-structural approaches to flood control, and required the U.S. Army Corps of Engineers to consider environmental protection, recreation, navigation and flood control to be equally important.

S. 2418 provided for several new organizations to administer nationwide water management policies, such as the *Water Resources Council* (WRC). The WRC would have served as a clearinghouse for information and coordinated water management policies among various states and agencies.

The bill also called for a new *Missouri River Basin Association* (MRBA) to serve as a regional planning body under the authority of the Secretary of the Army. The present-day MRBA consists of one governor-

appointed representative from each of eight states and one from a coalition of Indian tribes in the basin, along with non-voting members from various federal agencies.

The new MRBA described in S. 2418 would consist of the Secretaries of the Army, the Interior, Agriculture and Transportation, along with representatives from Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota and South Dakota. S. 2418 included no other federal agencies, no Indian tribes, nor the state of Wyoming in the MRBA.

Nationwide, S. 2418 budgeted $15 million annually for restoring aquatic ecosystems and $40 million annually for construction of small recreation and environmental projects.

For the Missouri Basin, the legislation allocated an additional $65 million to restore and enhance fish and wildlife habitat, $25 million for long-term resource monitoring and $10 million for recreation projects.

Another $5 million would finance comprehensive river basin management plans for the Missouri, the upper Mississippi, and the lower Mississippi basins. The Secretary of the Army would have developed the plans, in consultation with the new MRBA and state governors.

The bill also budgeted $80 million over ten years for the Missouri River Floodway Project, to buy flood-prone land between Sioux City, Iowa, and St. Louis, Missouri.

The legislation emphasized non-structural approaches to flood control that address entire watersheds at a time, a shift from the nation's current dependence on levees and dams that the federal government manages in a somewhat patchwork manner.

S. 2418 required the Corps to give equal importance to environmental protection, recreation, navigation and flood control, and its mission would include restoring aquatic ecosystems. This, too, represented a fundamental shift away from the Corps' historic management of the Missouri River, and it cut to the question of priorities, the heart of many recent conflicts between the upstream and downstream states.

The bill asked state and local interests to pay at least 20% of the cost to repair non-federal levees after a flood.

Finally, the Secretary of the Army would have been authorized to rebuild recreation facilities made unserviceable due to reservoir drawdowns and other releases from dams. The Corps would seek money from other agencies to help defray the cost of such projects.

Baucus' bill died in the Senate, along with the entire WRDA, last October. Now that the Republicans have taken over both houses of Congress, Democratic Senator Baucus will lose his chairmanship of the Senate Environment and Public Works Committee. It's too early to say if Congress will try, once again, to incorporate any of the Galloway Committee's floodplain management recommendations next year, or if they will even pass a Water Resource Development Act

Revised Master Manual could still jeopardize endangered species

by Susan Risland

The U.S. Fish and Wildlife Service recently warned that three threatened or endangered species in the Missouri Basin could become extinct if the Preferred Alternative to the current Master Manual is adopted without alterations.

In a draft biological opinion issued in August, the FWS predicted that the proposed management plan would improve much of the environment along the Missouri, but not enough to save the area's endangered least tern, endangered pallid sturgeon and threatened piping plover.

The report added that the plan would adversely affect, but probably not jeopardize, the basin's endangered bald eagles. The Missouri River watershed is home to 10 endangered species, four threatened species, one species under petition, and 18 Category Two candidate species.

For the past three decades, the U.S. Army Corps of Engineers has managed the Missouri River according to policies laid out in the Missouri River Master Water Control Manual (the Master Manual), which addresses varied and often competing uses for the basin's water. In 1989, the Corps launched an in-depth review of the Master Manual, in which it analyzed hundreds of possible changes in water management strategies. Last May, the Corps selected a Preferred Alternative that incorporates some of those changes. The new plan would benefit fish and wildlife by shortening the navigation season and increasing springtime releases from the reservoirs to imitate the flows that existed before the dams were built.

As required by the Endangered Species Act of 1973, the Corps asked the FWS to submit an opinion on how the Preferred Alternative would affect the region's biological organisms, with accompanying recommendations. The FWS's biological opinion predicted that three species now in danger of extinction are not likely to thrive and would probably not survive at all if the Preferred Alternative is adopted

The report said that lack of habitat is the main cause of the three species' decline. It added that the species'

adult population, reproduction and distribution would continue to drop under the new plan, although not as quickly as they are now. It recommended that the Corps restore habitat for fish and wildlife in and around the river, and adjust the Preferred Alternative to mimic the river's natural ebb and flow more closely.

NATURE'S WAY

Before it was contained behind dams and levees, the Missouri used to overflow its banks in March and April as snow melted on the surrounding plains. The river dropped during May. Then mountain snowmelt produced a greater flood in June, after which the river dropped steadily throughout the summer and fall, when about 98 percent of the channel was less than 10 feet deep. Numerous wetlands, prairies, and sandbars formed in the floodplain and in the river channel, and forests grew along the banks.

The FWS contends that flooding is a natural and essential component of a healthy ecosystem. Native fish, wildlife and plants depend on the river's natural rise and fall to discourage predators, deposit nutrients, build banks and sandbars and scrub them free of vegetation, and to flood wetlands and create shallows full of plants and debris. Some fish, such as pallid sturgeon, can spawn only in water that moves at a specific speed and has a specific temperature, turbidity and depth. Some birds, such as terns and plovers, nest on open riverbanks and sandbars where there's little plant cover for predators, and they feed on insects and other creatures that live in the shallows at the river's edge.

In recent decades, human intervention has drastically reduced the amount of habitat for those species along the Missouri. In its biological opinion, the FWS reports that, for each mile of the main channel, about a square mile of wetland, oxbow lakes, islands, mudflats and meandering river has vanished. The report adds that, on average, the Missouri is now about a fourth of its previous width and contains a mere 10 percent of its original shallow water habitat.

Above Sioux City, Iowa, the six mainstem dams replaced miles of river with gigantic artificial lakes that have flooded hundreds of thousands of acres. Fish that normally feed and reproduce in shallow wetlands cannot thrive in deep, cold, slow-moving lake water. As the dams impound and release water, the river alternately exposes and submerges its shoreline, where bird nests become flooded. Instead of rebuilding sandbars and shorelines during annual floods, the river now drops most of its sediment behind the dams.

Below Sioux City, levees hold most of the river in a deep, narrow channel that runs unnaturally fast. Channelization has shortened the river by about a third, eliminated about 100,000 acres of aquatic habitat and about 65,000 acres of islands and sandbars; and eliminated about 300,000 acres of timber, sandbars, and other habitat along the shores.

The pallid sturgeon is one species that has all but disappeared in the Missouri and Mississippi rivers as a result. Before the dams and levees were built, pallid sturgeons represented about 20 percent of all sturgeons caught in the river near West Alton, Missouri. By 1985, that figure had dropped to a miniscule .02 percent. The FWS has seen no sign of any young pallid sturgeons in more than a decade, although evidence suggests that pallid and shovelnose sturgeons have begun cross-breeding in response to human-caused changes in their environment.

The FWS warned in its report that the Missouri Basin's pallid sturgeon, least tern and piping plover will be in serious danger of extinction unless the river's natural spring flooding is reinstated and natural habitat is restored

RESTORING THE ENVIRONMENT

Last year's devastating floods in the Midwest demonstrated how quickly the Missouri can begin reverting to its natural state. As the river burst through levees, it widened its channel in some places and scoured out new lakes, blue holes and temporary seasonal wetlands in the floodplain. Fish and wildlife have thrived in the new habitat.

The floods accelerated the government's efforts to restore the floodplain. So far, 47 communities in the basin have relocated to higher ground, and about 13,000 acres in Missouri, Kansas, Iowa and Nebraska have been deemed eligible for federal programs to buy land from willing sellers and restore the floodplain there.

Concern for the environment has been a growing trend for some time in the Missouri Basin. During the past nine years, as the region's least tern, piping plover and pallid sturgeon joined the list of threatened or endangered species, the Corps began giving fish and wildlife greater weight in its management decisions. When it published its Preferred Alternative for the Master Manual last May, the Corps suggested giving environmental issues the same priority as economic considerations. In a distinct departure from the current Master Manual, the proposed plan calls for moderate spring flooding and a shortened navigation season to benefit fish and wildlife.

However, the FWS said in its biological opinion that certain species will not recover under the Preferred Alternative, because they require much more flooding and the reconstruction of wetlands and other habitat. The report recommended:

- restoring shallow waters along the main channel of the river
- restoring the river's natural temperatures, particularly by raising the temperature in strategic places below Fort Peck, Garrison and Fort Randall dams

- restoring the river's natural system of sediment transport, which would increase the water's turbidity and rebuild sandbars, shorelines and the riverbed.
- dedicating about $12 million for long-term research and monitoring to document the Master Manual's effect on the ecology, with particular attention to the tern, plover and pallid sturgeon.
- a larger flood in late May and early June, about a month later than the spring rise in the Preferred Alternative, to mimic the river's natural rise from mountain snowmelt.

Many of the proposed changes would focus on the lower reaches of the Missouri. The report noted, "The greatest need, and most feasible location for restoring the river/floodplain connection ... is in the channelized river below Ponca, Nebraska."

For example, the FWS' proposed flood between May 1 and June 15, which would mimic the flooding from mountain snowmelt, would flood about 64,000 acres, an area nearly ten times as large as the Corps recommended for the earlier "spring rise" in its Preferred Alternative.

The report also called for habitat restoration through structural modifications, changes in water releases from the reservoirs, or a combination of both. "Structural modifications" could include widening the channel, and restoring chutes and side channels through measures such as breaching agricultural levees so the river would flood the lowlands beyond. The report recommended that only lowlands acquired through conservation easements or other agreements would be flooded.

For the channelized section of the river, the report advocated restoring more than 19,000 acres of shallow water habitat, mainly in dike fields and in areas, such as oxbow lakes, that lie off the main channel. In the upper Missouri, below Fort Peck, Garrison, Fort Randall and Gavins Point dams, the FWS recommended at least 50 to 100 acres of sandbars per mile of river.

In short, the FWS suggested that the Corps should give higher priority to threatened or endangered species, and that it should view the entire ecosystem as an interdependent unit.

If the ecosystem were the only consideration, the Corps' job would be easier, but the agency has to satisfy the demands of other interests, too. Environmental considerations have been receiving greater emphasis recently, and they've already cost the basin in some ways. For instance, the Corps says that, because of its new water management policies to benefit terns and plovers, the system's dams now produce less hydropower, and the Western Area Power Administration has had to buy higher-priced electricity elsewhere.

Now that the biological opinion is in, the Corps and FWS will negotiate what is known as "reasonable and prudent" alternatives that cause no undue economic hardship or excessive impacts on other interests addressed in the Master Manual. Because the FWS has predicted that the Preferred Alternative would leave some species in danger of extinction, the Corps is required to notify the FWS of its final decision on the proposed action.

For more information on the biological opinion, write to Ralph Morgenweck, Regional Director, U.S. Fish and Wildlife Service, Region 6, Box 25486, Denver Federal Center, Denver CO 80225, or call (303) 236-7920.

For more information on the Preferred Alternative to the Master Manual, write to Paul Johnston, Public Affairs Office, Missouri River Division, U.S. Army Corps of Engineers, 12565 West Center Road, Omaha NE 68144-3869, or call (402) 221-7208

FEDERAL REPORTS

U.S. GEOLOGICAL SURVEY

Since 1991, the USGS has been studying water quality in the Red River of the North watershed as part of its National Water-Quality Assessment Program (NWQAP). In general, the basin's water is low in mineral concentration, but cadmium, lead, mercury and selenium have been found at levels that exceed EPA drinking-water standards.

The Red River study, one of the first under the NWQAP, focuses mainly on nitrate and phosphate pollution from agricultural runoff and municipal sewage; industrial waste and untreated sewage pollution from cities; toxic pollution from landfills, agriculture, and crude-oil pipelines; soil erosion and sedimentation; heightened mercury levels in game fish, which could threaten human health; and heightened salinity of aquifers and streams due to irrigation runoff, drawdowns of the aquifer during droughts, and water being diverted from the Missouri River Basin into the Sheyenne River.

For more information, contact District Chief, Water Resources Division, U.S. Geological Survey, 702 Post Office Bldg., St. Paul MN 55101

WESTERN AREA POWER ADMINISTRATION

John M. (J.M.) Shafer, Administrator for Southwestern Power Administration, was recently appointed Administrator of the Western Area Power Administration, which markets

and transmits federally generated power in 15 states.

Shafer graduated from the University of Wyoming in 1966 with a Bachelor's degree in electrical engineering. He began his career with Southern California Edison Company in San Bernardino, Calif., in 1966. In 1967, he began working for the federal government as an engineer for the U.S. Bureau of Reclamation in Casper, Wyo., and worked in Reclamation's offices in Denver and Grand Lake, Colo., from 1967 to 1978.

In 1978, he took a position at Western as Technical Support Division Director. He served in many different leadership positions until his appointment as Loveland's Deputy Area Manager in 1984. He served in this position until 1988.

Shafer then moved on to Southwestern Power Administration in Tulsa, Okla., where he was appointed Administrator in September 1988. Since then, he has received many honors. In 1992, he was selected to participate in the Program for Senior Managers in Government at the John F. Kennedy School of Government at Harvard University. Shafer, a registered professional engineer, was also appointed to the board of directors and executive committee of Southwest Power Pool, an association of utility executives that establishes standards for reliable electric service in the Southwest. In addition, he was recently appointed to the board of trustees for the North American Electric Reliability Council, the principal organization for the planning and operation of electric utilities in North America.

Shafer and his wife, Michele, have two children and one granddaughter.

STATE REPORTS

KANSAS

Governor Joan Finney
(Governor-Elect Bill Graves)

During September 1994, the Chief Engineer of the Kansas Division of Water Resources (DWR) adopted significant new regulations that govern water appropriations of both surface and ground water. The regulations establish: 1) safe yield criteria for all new water-appropriations permits that are not currently governed by other specific regulations or restrictions associated with special use areas. 2) criteria to evaluate proposed water uses that would replace some irrigation, and 3) new standards for exchanging existing irrigation appropriations for any other beneficial use.

In July, the Special Master for the Kansas v. Colorado case recommended that the U.S. Supreme Court find Colorado liable for violating Article IV-D of the Arkansas River Compact. The Special Master's final report reiterated findings from his draft report, saying that the pumping of water from wells in Colorado had caused the Arkansas River to become depleted, a violation of the compact. The U.S. Supreme Court has established a briefing schedule, and oral arguments will probably be held next spring.

Kansas continues to discuss the Republican River Compact with Colorado and Nebraska. At its annual meeting on June 10, the Compact Administration agreed to two special work sessions during the year to try to resolve the issues through the Compact Commission.

The 1994 state legislature approved funding to expand the DWR's Sub-basin Water Resources Management Program, which proactively addresses issues of water resources quantity and quality in specific basins. The funding allowed the program to expand from one basin team to three teams, who work closely with interested parties in the basin to develop a holistic water resource management program that will supplement and/or replace the present management policy. The program allows for contracting professional services to fill significant data gaps and develop computer models as necessary.

NORTH DAKOTA

Governor Edward T. Schafer

The EPA has awarded $600,000 to the North Dakota State Water Commission to help develop the State Wetland Conservation Plan, which North Dakota began designing in 1992.

The plan is intended to protect, develop, manage, and enhance the state's wetland resources in a cooperative and reasonable manner and in partnership with private landowners and local governments.

The 75/25 cost-share grant from the EPA will help the state to:

- continue developing North Dakota's wetland education program,
- position North Dakota to assume federal Clean Water Act, Section 404, regulatory responsibilities,
- evaluate Geographic Information System technology for managing wetlands,
- advance North Dakota's wetland water quality standards,
- advance North Dakota's private lands initiative program, and
- support watershed demonstration projects in the Grand Harbor watershed and Devils Lake Basin, including the Adopt-A-Pothole program.

The draft plan is being prepared for public review. For additional information, contact Lee Klapprodt at the North Dakota State Water Commission, 900 East Boulevard, Bismarck ND 59505, or call (701) 224-4970.

ELECTION RESULTS: MISSOURI BASIN

Republicans fared unusually well in the Missouri Basin states during the Nov. 8 election, reflecting a national trend.

Of the eight governors in the region, six are now Republican, a gain of two.

Things changed less in the U.S. Senate. In Missouri, former Governor John Ashcroft (R) replaced retiring Senator John Danforth (R). In Wyoming, Craig Thomas (R) replaced Malcolm Wallop (R).

Four new Republicans in the U.S. House of Representatives give the GOP a total of 16 seats in the basin, including complete control of the House in Iowa, Nebraska and Kansas. Republicans now control both the House and Senate in all state legislatures, except in the Senates of Iowa and South Dakota, in Missouri's House and Senate, and in Nebraska, which has a non-partisan legislature.

In the following summary of election results, bold type indicates positions that were up for election this year. Underlining indicates candidates who replaced an incumbent. In the state Senate and Houses, we have indicated the total number of Democrats and Republicans, along with how many seats the Republicans gained or lost in the Nov. 8 election. NC indicates no change in each party's total number.

State	Governor	U.S.Senate	U. S. House of Rep.	State Senate	State House
Iowa	**Terry Branstad (R)**	Charles Grassley (R) Tom Harkin (D)	**Jim Leach (R)** **Jim Nussle (R)** **Gregg Ganske (R)** **Tom Latham (R)** **Jim Lightfoot (R)**	Dem. 27 Rep. 23 (NC)	Dem. 36 Rep. 64 (+13)
Kansas	**Bill Graves (R)** replaced Joan Finney (D)	Bob Dole (R) Nancy Kassebaum (R)	**Pat Roberts (R)** **Sam Brownback (R)** **Todd Tiahrt (R)** **Jan Meyers (R)**	Dem. 13 Rep. 27 (NC)	Dem. 41 Rep. 81 (+15)
Missouri	Mel Carnahan (D)	**John Ashcroft (R)** Kit Bond (R)	**William Clay (D)** **James Talent (R)** **Richard Gephardt (D)** **Ike Skelton (D)** **Karen McCarthy (D)** **Pat Danner (D)** **Mel Hancock (R)** **Bill Emerson (R)** **Harold Volkmer (D)**	Dem. 19 Rep. 15 (+1)	Dem. 87 Rep. 76 (+8)
Montana	Marc Racicot (R)	Max Baucus (D) **Conrad Burns (R)**	**Pat Williams (D)**	Dem. 19 Rep. 31 (+11)	Dem. 33 Rep. 67 (+14)
Nebraska	Ben Nelson (D)	James Exon (D) **Robert Kerry (D)**	**Doug Bereuter (R)** **Jon Christensen (R)** **Bill Barrett (R)**	Nonpartisan/Unicameral Leg.	
North Dakota	Ed Schafer (R)	Byron Dorgon (D) **Kent Conrad (D)**	**Earl Pomeroy (D)**	Dem. 20 Rep. 29 (+4)	Dem.. 23 Rep. 75 (+10)
South Dakota	**William Janklow (R)** replaced Walter Miller (R)	Larry Pressler (R) Tom Daschle (D)	**Tim Johnson (D)**	Dem. 19 Rep. 16 (+1)	Dem. 28 Rep. 42 (-1)
Wyoming	**Jim Geringer (R)** replaced Mike Sullivan (D)	Alan Simpson (R) **Craig Thomas (R)**	**Barbara Cubin (R)**	Dem. 10 Rep. 20 (NC)	Dem 13 Rep 46 (+5)

MEETINGS, ETC.

• *Conference: Management of the Upper Mississippi River Basin*, **Nov. 29-30**, Minneapolis/St. Paul, Minnesota. Will focus on management options for the basin's future. Government personnel, special-interest groups, and the general public are invited. Sponsored by the Upper Mississippi River Basin Association. Contact UMRBA, 415 Hamm Bldg., 408 Saint Peter St., Saint Paul MN 55102; phone 612-224-2880; fax 612-223-5815.

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Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
U.S. Environmental Protection Agency
James Kircher, U.S. Geological Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT-Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX (406) 542-7585

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Author advocates less federal action, more interstate cooperation

River of Promise, River of Peril

by Susan Risland

The Missouri River basin would be better managed if states, tribes and local governments had more authority; if federal activities were better coordinated; and if the river were seen as an ecosystem instead of a commodity to be exploited, according to a new book by John E. Thorson.

In *River of Promise, River of Peril*, Thorson explores the law and politics of managing the Missouri River. He concludes that the federally managed dams on the Missouri, originally heralded as a great benefit for the basin, "have come to symbolize regional divisiveness, the excesses of federal supremacy, insensitivity to native people, and indifference to ecological systems."

Thorson contends that the basin sorely needs a broad-based, regional organization of state, tribal and local representatives to manage the Missouri in a cooperative way. He adds that such an organization should be given significant authority to act, unlike most of its predecessors, and he proposes that it be modeled after the short-lived Missouri River Assembly, organized by the Northern Lights Institute in the late 1980s.

He writes, "This book is about federalism in the management of rivers, about giving needed attention to both the vertical and horizontal aspects of our federalist system (including the involvement of tribal governments), and about building lasting regional water management institutions in the Missouri River basin."

Thorson, who has extensive experience with Western water issues, served as director of the Missouri River Management Project for the Northern Lights Institute and is currently the Special Master for Arizona General Stream Adjudication. His book provides useful insights into the intricacies of water management, including how to resolve disputes and how to establish effective organizations. In the Missouri watershed, he says, any attempt at basinwide management will have to accommodate the region's diversity:

"The ten states, twenty-five Indian reservations, and twenty-one or more federal agencies provide multiplicity enough. The addition of several hundred counties, thousands of towns and cities, and innumerable special districts, each with its own problems and responsibilities, makes even the conception of this intergovernmental system nearly impossible. This governmental complexity retards regional efforts to manage water and other natural resources in the basin and is probably the most significant organizational challenge to effective management of the Missouri River system."

By thoroughly exploring the politics that have shaped the Missouri basin, Thorson has produced a useful reference work for policy makers, journalists, lawyers, and others who need a fact-based analysis of water management issues. The book is packed with statistics and has helpful maps, tables, and other illustrations. It includes extensive footnotes, a large bibliography and a comprehensive index. Thorson writes in a readable style with careful attention to detail. In a few places, the narrative slows to delve into complex political matters, but in general, the pace moves smoothly.

The book begins with a brief description of the region's geology, climate, demographics, cultures, economy and historical uses of water. Next, it profiles the basin's 10 states, 25 Indian reservations and three federal agencies that Thorson considers the most important government entities in the basin.

In a chapter that details each state's history and water laws, Thorson argues that the upper basin states were never fairly compensated for the

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land they sacrificed when the Missouri was dammed: "In the name of national economic recovery, navigation and lower basin flood control, Indians and other North Dakota citizens paid a high price for the construction of Garrison and Oahe dams .... The nation has yet to mitigate these damages or to fully compensate these people for their loss."

The book provides a history of the basin's Indian tribes and some of the treaties they signed with the U.S. government. It explores issues of tribal sovereignty in some depth, and it predicts that unresolved questions of tribal water rights will play an increasingly important role in the basin's water management. Thorson writes, "The magnitude of these claims is yet to be determined, and in a departure from the normal operation of the western prior appropriation system, the water need not immediately be put to beneficial use for the right to continue."

Next, in two chapters that explain why the federal government became the dominant power in the basin, Thorson shows the importance of water throughout U.S. history. Water rights and flood control have been especially controversial issues in the West, where droughts and floods wreak havoc nearly every year. Thorson shows how, during the first half of this century, the U.S. Army Corps of Engineers and the Bureau of Reclamation took responsibility for managing the Missouri through dams, levees and irrigation projects

The book acknowledges the good intentions that led to federal control of the Missouri, but Thorson maintains that the federal government is poorly equipped to handle the intricacies of managing such a vast and diverse watershed. In addition, he says, the government has not followed through on some promises, such as irrigation for the upper basin, outlined in the 1944 Pick-Sloan water management plan.

Thorson writes that, by the time Fort Peck Dam was built in Montana in 1936, "The Missouri had become the domain of engineers, lawyers, and politicians who sought actively to manipulate the land and its tribal people for jobs, regional development, and economic gain. Their efforts produced a fundamentally altered basin landscape."

Thorson adds, "The legacy of tension and conflict in the Missouri River basin reveals several important weaknesses in the American federal system. First, the federal government has increasingly dominated the Missouri River over the last fifty years .... This nationalization has resulted in deficient policies and widespread resentment. Second, the Constitution ... gives insufficient attention to ... the relationships among the governments of a region that share a transboundary natural resource such as water."

The book contends that the federal Pick-Sloan Plan, which has guided water management strategies for the Missouri during the past 50 years, has not worn well with time and should be reconsidered. "The failure to build viable river management institutions is the principal shortcoming of the Pick-Sloan Plan, for the absence of working intergovernmental institutions fuels the ongoing strife," Thorson writes.

The book describes a series of basinwide organizations and intergovernmental management strategies that have been tried in the past, including the predecessor of the present-day Missouri River Basin Association. Thorson analyzes what they accomplished and how they could have been more effective. In a chapter that could almost serve as a textbook for public policy makers, he uses examples from various water management plans across the nation to show what works and what does not, how to negotiate and how to resolve conflicts. For the Missouri, he says, the biggest problem continues to be the lack of a continuing forum that would give a voice to all the citizens and decision makers in the basin.

Thorson sees a possible solution in the Missouri River Assembly, a now-defunct organization developed by the Northern Lights Institute in the late 1980s. As director of the Missouri River Management Project for Northern Lights, Thorson helped design the Missouri River Assembly as a basinwide entity representing the states, tribes, federal government, special interests and the general public. In designing the Missouri River Assembly, Northern Lights attempted to promote a sense of community and cooperation throughout the basin.

Thorson says he sees some of that community spirit already growing in the basin: "Intergovernmental affairs in the Missouri River basin were at an all-time low in 1987 and 1988 ... Matters could only improve, and they have. The major participants have attempted to restore basin relationships and build a firmer foundation for intergovernmental cooperation and river management. Initiatives have come from a public interest group, the states, the tribes, and the federal government. None of these efforts has resulted in a comprehensive solution to the basin's problems, and every step of the way is perilous."

Thorson ends his book with the reassurance that "although the Missouri River has been basically changed, it is not too late to redeem the promise of the Missouri River Pick-Sloan Plan. Sound river basin development and management can still enhance people's lives. Effective water management institutions can be developed in the Missouri River basin and dams and reservoirs, now emblems of destruction and dashed expectations, can again reflect optimism, cooperation, and fairness."

MRBA supports resource monitoring, changing cost-share laws

by Susan Risland

This year, the Missouri River Basin Association is supporting legislative proposals to expand resource monitoring along the Missouri, to allow in-kind contributions to count toward certain cost-share requirements, and to grant Indian tribes a five-year exemption from Section 22 cost-share requirements.

The MRBA has submitted written testimony to a subcommittee of the U.S. Senate Environment and Public Works Committee, advocating the following proposals:

Long-Term Resource Monitoring for the Missouri River

The MRBA advocates expanding part of the Environmental Management Program on the upper Mississippi River to cover the Missouri River, as well. The program, authorized by the Water Resources Development Act of 1986, includes a long-term resource monitoring component that has produced valuable data.

Currently, that component of the program has a budget of $5 million per year for monitoring the upper Mississippi. The MRBA has recommended that Congress 1) expand the resource monitoring element to include the Missouri, and 2) allocate the program an additional $5 million per year.

No such program is now in place for the Missouri River, but there may soon be a serious need for it. The Corps of Engineers is completing its review of the Missouri River Master Water Control Manual and will probably change the way it manages the river system.

Although the Corps has not yet announced its final decision, any modifications are sure to affect the resources along the Missouri. The basin is home to several species of animals, listed as either threatened or endangered, that will be of particular concern. The MRBA's Directors believe that a comprehensive water monitoring program will be necessary to evaluate the effects of the Corps' modifications. The program would be most effective if it were in place before the implementation of any new water management policies.

Section 22 Programs

The MRBA has also recommended minor rewording for a section of the 1992 Water Resources Development Act, along with a five-year exemption for the basin's Indian tribes.

Three years ago, Congress amended Section 22 of the WRDA to "allow" the Corps to accept in-kind services as part of the act's non-federal cost-share requirement. By the Corps' interpretation, the word "allow" gives the agency latitude to decide whether to accept in-kind services. To clarify that the Corps is required to accept in-kind services, the MRBA recommended substituting the word "direct" for the word "allow" in Section 22.

Secondly, the MRBA recommended granting Indian tribes a five-year exemption from the cost-share requirements of Section 22 programs. For years, the basin's states received federal money that paid 100 percent of the costs of Section 22's Planning Assistance to States program. At that time, the Corps did not recognize Indian tribes as sovereign entities for the purpose of the program, and the tribes received no federal funding under the program.

Now, to receive federal funding, governments must share the cost of the program. Since the tribes are now recognized as sovereign entities, and since they never received the same percentage of federal funding as the states, the MRBA has requested that Congress exempt the tribes from the cost-share requirement for five years.

Section 1135 Programs

Finally, the MRBA requested that the Corps be directed to accept in-kind contributions toward the cost-share requirements of recreation and environmental restoration projects. In-kind contributions would be accepted for up to 50 percent of the cost-share requirements for environmental restoration listed in Section 1135 of the WRDA. This would make the cost-share requirements consistent among the programs that affect water management along the Missouri and in the nation's other river basins.

Copies of the MRBA's testimony are available upon request.

Last year, the Corps of Engineers completed preliminary stages in its review of the Master Manual, the operating plan for the Missouri River. In July 1994, the Corps completed a draft environmental impact statement (DEIS) on its preferred alternative to the current Master Manual. For this issue only, this section of the Missouri River Report summarizes federal, state and tribal reactions to the Corps' DEIS. The following reports do not necessarily represent the opinion of the MRBA or its directors. (Summaries of all state and federal reports prepared by Susan Risland.)

FEDERAL REPORTS

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency rates the preferred alternative as "environmentally unsatisfactory – inadequate" and advises that it be formally revised and subsequently made available for public comment.

The Corps should consider temporarily altering the river's flows to test the effects of the new model before any permanent changes are implemented and to partially protect fish and wildlife until a decision is made.

The EPA acknowledges the Corps' efforts in producing the preferred alternative, but the new plan is likely to result in little, if any, improvement to the Missouri River ecosystem. In fact, it will probably continue to contribute to the degradation of nationally significant natural resources. The preferred alternative would likely jeopardize the region's pallid sturgeon, interior least tern and piping plover, three species currently listed as either threatened or endangered.

The DEIS fails to adequately assess the proposal's impacts or explore all reasonable alternatives. The EPA recommends further analysis on the following key issues:

- Alternatives analysis and ecosystem management. The DEIS does not present a range of alternatives that "sharply define the issues and provide a clear basis for choice," as required by the Council for Environmental Quality. In particular, the DEIS appears to present alternatives that maintain navigation and hydropower while doing "the least harm" to fish and wildlife, instead of significantly improving the ecosystem. The EPA recommends an ecosystem management approach that would incorporate both structural and non-structural methods to improve the environment and foster long-term economic development.
- Clean Water Act compliance with anti-degradation standards. The DEIS does not say how the preferred alternative would comply with provisions of the Clean Water Act.
- Mitigation. The DEIS also fails to examine ways to soften any adverse impacts the preferred alternative might have on the environment. In particular, the Corps should 1) acquire riparian areas that would reconnect the floodplain to the river's main channel and 2) attempt to comply with state anti-degradation policies.
- Environmental justice regarding tribal issues. The DEIS does not analyze how the preferred alternative would affect Indian tribes along the Missouri. To conform with requirements of the recent Executive Order on Environmental Justice, the DEIS should have addressed the tribes' socioeconomic status and benefits from the project, and how the project would affect their water rights.

For further information, contact Cathy Tortorici, EPA Region VII Project Manager, at 913-551-7435, or Wes Wilson, EPA Region VIII Project Manager, at 303-293-1439.

WESTERN AREA POWER ADMINISTRATION

The spring rise and intrasystem regulation in the preferred alternative will probably increase the cost of producing electricity.

The spring rise will require much more frequent spills at Gavins Point, Fort Randall, Garrison and Fort Peck dams. The DEIS fails to analyze how these spills will affect the price of electricity.

Under the preferred alternative, WAPA will need to buy more energy during the winter, at a cost of about $3 million per year, to accommodate the shift in water release patterns.

Second, maximum releases through the turbines during April, May and June will impair WAPA's ability to respond quickly to fluctuating water levels. To allow the turbines a sufficient operating range when they are at or near maximum discharge, the dams will need to spill more water, which will reduce revenues. If water releases were more flexible during those months, WAPA could avoid spilling water when responding to instantaneous load fluctuations.

Third, increasing release rates around the clock will cause a surplus

in power generation during off-peak hours. This will reduce revenues, since surplus power does not bring an optimum price on the market.

Fourth, the DEIS fails to say whether the Corps plans to shift its maintenance schedule. Maintenance for the power plants is now scheduled during the spring, but under the preferred alternative, it would probably be done at some other time. Forced or planned outages would require more frequent spills, which would increase production costs.

The spring rise is intended to emulate the natural hydrograph, but the river's natural peak occurs in June and July, not in April and May. It seems that delaying the spring rise for at least 15 days would benefit the environment more and cause fewer problems for hydropower generation.

The preferred alternative also calls for intrasystem regulation to benefit fish at Fort Peck, Garrison and Oahe reservoirs. This strategy, along with the spring rise, will cause major springtime spills in one out of every three years at Fort Peck and Garrison dams. From the data supplied, WAPA estimates that the increased spills will reduce annual power revenues by about $3.26 million.

Finally, the DEIS mentions WAPA's marketable capacity several times, but it bases its calculations on the capacity available in 1961. Various factors, especially environmental considerations, have significantly changed the system since then. After the Corps completes its review of the Master Manual, WAPA will conduct its own study, open to public comment, to determine the current marketable capacity of the system.

STATE REPORTS

IOWA

Governor Terry E. Branstad

The Corps' review of the Master Manual shows that the current management plan is still the best choice. The preferred alternative has not been shown to improve the system's total benefits, and it would hurt Iowa's agricultural community much more than the Corps' report suggests.

For one thing, the spring rise in the preferred alternative would cause flooding that would devastate farmland along the river. The Corps needs to study the problem in more depth, paying particular attention to interior drainage systems, the rise in groundwater and the economic impact of the floods. The spring rise would likely increase bank erosion, and the water's increased speed would require towing units to use more fuel as they move upstream.

Second, navigation for shipping the state's harvest to export markets is critical for Iowa and for the entire nation. The preferred alternative calls for halting navigation service during November, but that month is one of the busiest for barge traffic. Iowa continues to oppose any increase in the level of the permanent pool, which would reduce navigation service and navigation season length.

The Corps' study understates the importance of navigation on the Missouri, in part because it relies heavily on data from the past ten years, when navigation was reduced due to drought. Barge owners say that, if navigation on the Missouri becomes even less reliable than it is now, they will almost certainly abandon operations on the river.

There is also reason to believe that the Corps has underestimated the impact of the preferred alternative on Mississippi River navigation. Since 91 percent of the traffic on the Missouri is also moved on the Mississippi, it's important to ensure that the goods can be transported down the Mississippi to their final destination.

Iowa acknowledges the Corps' good intentions in launching its review of the Master Manual, but the findings might not be sufficiently accurate or significant. The study is based on a mere 96 years of record, and the preferred alternative seems to exaggerate the value of certain benefits while underestimating others.

The Corps' method of comparing benefits suggests that one of the project's goals is to identify an alternative that distributes benefits equally among the states. In fact, the upper basin states have complained that the preferred alternative is inadequate because it still suggests that 68 percent of the benefits will accrue to the lower basin. However, Iowa has calculated that 21 percent of the basin's people live in the upstream states, and 79 percent live in the downstream states. It would make more sense to distribute benefits on a per-capita basis, so that states with larger populations would receive greater benefits. The federal government uses the per-capita basis for virtually any other program in which it is involved.

The review process would have been more accurate, flexible and fair if it had allowed continuing discussion of a range of options, instead of presenting the preferred alternative after the Corps' study was complete.

Monitoring for water quality is another very weak element of the Corps' study. Without baseline data on water quality and on the status of fish and wildlife along the river, it will never be possible to demonstrate whether progress is being made. As soon as possible, the Missouri River should be included in the Long Term Resource Monitoring Program now being conducted on the Mississippi River.

The preferred alternative also creates some new problems regarding

water supply. The DEIS does not adequately examine the problems that will arise as additional springtime flows erode the streambed, lowering the alluvial aquifer that supplies water for Sioux City.

The spring rise is intended to improve habitat for fish and wildlife, but the projected benefits seem relatively small. Throughout the EIS process, Iowa has advocated creating more slow-moving backwaters for the pallid sturgeon. However, the Corps has promoted only alternatives that call for a spring rise, instead of considering the possibility of creating habitat.

Finally, the report does not adequately address the potential impact that reduced flows, under the preferred alternative or other options, might have on tribal water rights.

KANSAS

Governor Bill Graves

While Kansas' comments acknowledge that the Master Manual Review has provided important information, Kansas noted a number of inadequacies in the DEIS and called on the Corps to expand its analysis and issue a supplemental DEIS with a revised preferred alternative. Kansas' specific comments and concerns included:

The DEIS inadequately analyzes the relationship between Missouri River operations and the use of the Kansas River reservoirs to support navigation on the Missouri River. The benefits of the use of the Kansas River system are marginal, at best, despite the significant negative impacts in Kansas.

While recognizing the Corps' obligation to avoid threatening endangered species, Kansas provided a number of comments and suggestions regarding the spring rise, to help the Corps' find an environmentally sound alternative that will cause minimal disruption to people who currently use the floodplain:

- The DEIS does not adequately assess the increased flooding and drainage problems from the spring rise. More detailed analysis is needed.
- The Corps should evaluate and develop a broader range of options for the spring rise, including two separate rises of shorter duration.
- The Corps, the U.S. Fish and Wildlife Service and the states should jointly analyze how the ecosystem might benefit from structural changes in the river, in conjunction with variation in water levels. Such enhancement might be the key to preventing other species from becoming endangered.

The preferred alternative provides for an adequate water supply, but raising the winter releases from 9,000 cfs to 12,000 cfs would ensure better water quality and anticipate future needs of wastewater treatment plants and power plants.

In its review of the Master Manual, the Corps evaluated more than 400 alternatives, but all alternatives included only one operational criteria for navigation support. Kansas continues to request that the Corps evaluate a broader array of rule curves for navigation support.

The Corps, in cooperation with the states, should expand monitoring of the river, similar to the monitoring now being done in the upper Mississippi River basin.

Kansas believes the Master Manual must allow for operation on the Missouri River with a careful balance of a) clear guidance for operation during times of floods and droughts and b) a degree of flexibility for annual operation and to incorporate modifications due to changing basin conditions and what we learn through monitoring.

MISSOURI

Governor Mel Carnahan

The Corps' DEIS and preferred alternative are deeply flawed due to errors, faulty logic and improper methodology, and they should be withdrawn immediately. The current management strategy has worked well during both drought and flood. It should not be replaced by an untested preferred alternative based on bad science and misguided intent.

Missouri continues to oppose the spring rise, a split navigation season and a higher permanent pool.

In light of the Great Flood of '93, it is unbelieveable that the Corps proposes to create an artificial flood each year. The Corps has failed to adequately evaluate the impact that such floods would have on Missouri. The Corps is abandoning its traditional role in protecting people and their property from floods.

The Corps has not considered the fact that the spring rise will substantially devaluate farmland along the Missouri. When the federal government raises the level of a navigable river, such as the Missouri, and maintains it continuously at that level, the government is liable for the impact that such a change will cause on adjacent private property. Raising the river level constitutes an unconstitutional taking of any private land that is flooded as a result.

Federal programs are required to minimize their contribution to the unnecessary and irreversible conversion of farmland to nonagricultural uses. However, the Corps has not even attempted to balance the value of farmland against other interests, such as recreation. Farmland and the nation's preeminence in the international grain market are much more important than recreation.

Missouri does recognize that recreation is important to the upstream states. Therefore, we suggest establishing a $75 million fund for devel-

oping recreational facilities in the upper basin.

The spring rise in the preferred alternative would supposedly mimic the "natural hydrograph" and benefit the threatened pallid sturgeon, but it is neither natural nor beneficial to the pallid sturgeon. The Corps should consider other ways, such as fish ladders and revising stocking policies, to help species recover.

Navigation would probably not survive the drastic alteration that the spring rise would cause in the river's flow, and transportation costs would subsequently rise. In addition, the preferred alternative cuts November and, in many years, October from the navigation season. The modified navigation criteria and reduced navigation season length appear calculated to eliminate navigation on the Missouri. Missouri also vehemently opposes a split navigation season.

Raising the permanent pool would significantly increase flooding by reducing the reservoirs' capacity to hold back flood water. It also would unfairly transfer water from the lower basin to the upper basin.

The Corps has failed to adequately evaluate how operation of the Missouri River will affect the Mississippi River. This omission, arguably the most serious flaw in the DEIS, is compounded by errors in methodology, which have caused the Corps to underestimate the negative impact on Mississippi River navigation.

Another misconception holds that the system's benefits are unfairly distributed in favor of the lower basin. In reality, if benefits are figured on a per-capita basis, there's a strong bias in favor of the upper basin. The average citizen of Missouri now receives only $20 worth of benefits, while the average citizen of the Dakotas receives $225 worth of benefits, 11 times as much.

In particular, the federal government should reconsider its allocation of hydropower benefits, giving special attention to the inordinately small apportionment of those benefits to the basin's Indian tribes.

For at least two years, the Corps has ignored Missouri's concerns about the project. Recently, Missouri has identified additional concerns that are even more serious. Since significant new information has come to light, the Corps should prepare a supplemental impact statement, as required by law. Management of the Missouri River is so complex that changing one factor can cause changes in many other areas. Therefore, the Corps should re-evaluate all the related issues, not just a select few. Because the DEIS contains so many serious errors, the Corps should abandon it, along with the entire preferred alternative, and start from scratch.

Missouri supports the recovery of native species, the revitalization of the river corridor and improvements to water quality. However, these goals should not be pursued at the cost of existing uses and values.

MONTANA

Governor Marc Racicot

The preferred alternative could benefit fisheries in the three upper reservoirs, but it still favors states in the lower basin.

Montana feels strongly that the Master Manual must provide an equitable distribution of benefits throughout the basin. Both the current Water Control Plan and the preferred alternative allocate about 32 percent of the total system benefits to the four upper basin states and about 68 percent to the four lower basin states. When Fort Peck Lake was created, the state sacrificed 590,000 acres of valuable agricultural land. Fort Peck benefits the entire basin, yet Montana uses less than one-third of the electricity it generates, and it receives very little benefit from flood control, navigation and water supply.

Of the 1.3 million acres promised for irrigation development under the Pick-Sloan Plan, only 76,200 acres have been developed in the region. Economic development in northeastern Montana is closely tied to the management of the Missouri River. In the upper basin, small changes in the economy have a greater impact per capita than they do in the lower basin, with its larger population. Revision of the Master Manual presents an opportunity to redress the inequitable development of the Missouri River basin.

Second, Montana objects to maintaining the permanent pool at 18 MAF. A permanent pool of at least 31 MAF would improve hydropower production, water supply, recreation and habitat for fish and wildlife without substantially reducing flood control. A higher permanent pool significantly harms only navigation, which represents a mere 1.4 percent of system benefits.

During the recent drought, the level of Fort Peck Lake dropped to 2,208 feet, leaving marinas and other facilities at great distances – sometimes miles – from the water. If the permanent pool were set at 18 MAF, the lake could be drawn down to 2,160 feet seriously damaging lake habitat, recreation, hydropower production and the regional economy.

Third, the Corps continues to favor navigation by including navigation flow constraints in each alternative under consideration, but such constraints impede the production of hydropower and other system benefits. Navigation on the Missouri is quite expensive, and its economic value has probably been overestimated. The Corps should acknowledge the declining viability of navigation and formulate alternatives that are not subject to navigation flow constraints.

Fourth, Montana supports the travel cost method (TCM), instead of the unit day value method, for analyzing the economic impact of recreation. Studies that use the TCM estimate the value of recreation at $76 million and navigation at $18 million under the current Water Control Plan.

clearly illustrating that the basin's priorities are changing. Recreation values would increase with a higher permanent pool and more reliable water levels. The Corps should re-evaluate its figures, since some studies estimate that the value of recreation along the Missouri River in Montana is seven times greater than the Corps' estimate.

Finally, Montana agrees that rotating water storage levels above Fort Peck, Garrison and Oahe dams will benefit the fisheries in those three reservoirs.

NEBRASKA

Governor E. Benjamin Nelson

The Nebraska Department of Water Resources formulated Nebraska's response after receiving input solicited from municipal, commercial, industrial, agricultural, conservation and environmental spokespersons. Comments from three other state agencies were included, also.

The spring rise will increase the likelihood of flooding and drainage problems. The Corps should study it in greater detail and at least determine the location and extent of problems. The Corps should also compile more data on how the spring rise will affect tributary flooding, drainage in fields behind levees, the alluvial water table, the riverbed and the local, regional and national economy.

In separate comments, the Game and Parks Commission said it recognizes the need to restore a semblance of the natural hydrograph, including a spring rise, which will help reverse the decline in fish and wildlife populations by improving habitat. Channelization and other modifications are a serious detriment to fish and wildlife along the Missouri. Establishing a floodplain would restore the biological health of the ecosystem and provide flood protection. The 1993 floods showed that it would be cheaper in the long term if taxpayers paid landowners along the river to create such a floodplain, instead of paying the bill for rebuilding after the floods that are sure to continue to occur.

The state comments urged the Corps to explore the possibility of improving habitat by altering levees and other structures before it implements a spring rise. If the Corps does decide to implement a spring rise, it should first complete an impact assessment. It was suggested that any increase in springtime flows should be done gradually, and the effect on humans, fish and wildlife should be closely monitored. The Master Manual should allow flexibility, in case the spring rise does not improve habitat for fish and wildlife.

Nebraska is also concerned about the proposed shortening of the navigation season, which would diminish transportation on both the Missouri and the Mississippi waterways. Navigation is very important in Nebraska, and shortening the season during the autumn harvest would directly affect many of the state's communities.

However, the Nebraska Game and Parks Commission maintains that, if the biological health of the ecosystem were restored, citizens would once again come there to hunt, fish and enjoy other outdoor activities, and the state's economy would improve. The Corps' statistics indicate that navigation accounts for 1 percent of total economic benefits, while the benefit from recreation is six times greater. Since more than 61 percent of the state's citizens live near the river, the Missouri has to provide recreational opportunities now and in the future.

According to the Department of Water Resources, minimum non-navigation service levels should be maintained at 9,000 cfs in the spring and fall. During the winter, Gavins Point releases should be increased to 12,000 cfs when necessary to prevent ice-related problems. During the summer, to meet thermal standards and plant cooling requirements, releases should be 25,000 cfs at Omaha Public Power District's plant at Fort Calhoun; 22,000 cfs at Nebraska Public Power District's Cooper plant; and 18,500 cfs at Omaha Public Power District's North Omaha and Nebraska City plants. Although the DEIS suggests that cooling towers could be used instead of river water, such an alternative is not economically viable at the Nebraska power plants.

NORTH DAKOTA

Governor Edward T. Schafer

North Dakota welcomes some of the proposed changes in the preferred alternative, but the Corps has not fully acknowledged the contemporary needs in the river basin. Navigation should not receive priority over other uses, and the permanent pool should be raised to at least 44 MAF.

The Master Manual Review has used biased methodology and has overstated the value of navigation, which continues to receive "favored child" treatment, which was not intended by the original authorizing legislation. This unjustified use of water has negatively impacted downstream states as well as upstream states and, unfortunately, is the basis of the feud between the basins.

Other authorized purposes should receive equal consideration. For example, navigation should not be given priority over hydropower, which accounts for 48 percent of the total system's benefits and provides the largest economic benefit to the nation. Barge traffic accounts for only 1 percent of the annual net benefits from Missouri River management, but it requires the greatest amount of water of any authorized use. The preferred alternative would reduce navigation benefits by a mere $2 million.

Some states have claimed that navigation on the Mississippi River will suffer if the Missouri River's management policies are changed. However, navigation on the Mississippi is not an authorized project pur-

pose of the Missouri River system, and it has been shown that the preferred alternative would have no effect on Mississippi River navigation.

North Dakota welcomes a shorter navigation season and modified navigation service level. These small changes will help conserve water, especially during droughts, and will enhance recreation and water quality. They will also provide downstream states with an additional $173 million worth of water during droughts, which equates to ten years of full navigation benefits.

North Dakota is very disappointed that the preferred alternative calls for no increase in the permanent pool. When the water level in a reservoir drops, violations of state water quality standards occur. Also, tens of thousands of people use Lake Sakakawea as a municipal water supply, and those numbers will soon increase substantially. The Corps' own documents support a permanent pool of 31 MAF, but North Dakota will incur hardship unless the permanent pool is at 44 MAF or more.

For the three upper reservoirs, North Dakota supports intrasystem regulation, which will benefit fisheries.

A period of high water during the spring has been proposed to help restore rare and endangered species. However, the spring rise in the preferred alternative does not come at the same time of year as the river's natural flood season. Furthermore, the proposed spring releases would be large enough to erode shorelines significantly. It seems more reasonable to implement and then evaluate lower spring flows.

The spring rise would also cause lower water during the summer, which could cause hardship for irrigators, recreationists, and fish and wildlife. North Dakota recommends higher releases during the summer, except during droughts.

Final revisions to the Master Manual should include a procedure for evaluating and modifying the Annual Operating Plans. The states should help implement a biological monitoring program, and slight operational changes based on the monitoring studies should be allowed. Finally, the Corps should consider reconnecting some wetlands and other prime habitat to the mainstem of the river.

North Dakota recognizes that the Corps has legal authority to operate the Missouri River for flood control, water supply, hydropower, recreation, fish and wildlife, and navigation. However, the Corps caused major, negative impacts in 1988 when it drew down several reservoirs too rapidly, harming the reservoir recreation industry while supporting navigation. The resulting furor prompted the Corps to review the Master Manual.

North Dakota is sensitive to the multitude of isses and needs throughout the basin. Perhaps the Missouri River Basin Association can provide perspective and common ground among all states, tribes and interested parties.

SOUTH DAKOTA

Governor William Janklow

In most respects, the Corps' preferred alternative is a step in the right direction, but in two important areas, the preferred alternative falls short of reflecting contemporary uses of the river.

First, to benefit recreation, endangered species and water quality, the minimum pool should be raised to at least 31 million acre-feet. The Corps' study suggests this can be done without harming flood control or other project purposes. The change would benefit least terns and eagles by increasing fish populations. It would also significantly decrease the cost of water intake construction and pumping.

Second, the proposed spring rise will cause flooding below Fort Randall Dam. At first glance, the spring rise seems beneficial for fish and wildlife, but in reality, it will probably not be enough to allow recovery of the pallid sturgeon, for example. Establishing a floodway would probably be more beneficial in the long run. The spring rise should be modified and monitored to benefit fish and wildlife habitat while preventing flood damage.

The Corps should bear in mind that the O'Mahoney-Milliken Amendment provides upstream consumptive uses with absolute protection against navigation interests, and that the recent Bornhoft litigation said "there is a reasonable expectation that the Corps' revised plan will reflect contemporary uses and needs of the Missouri River Basin."

Third, South Dakota also strongly supports intrasystem regulation, because it greatly benefits reservoir fisheries and recreation without causing negative impacts downstream of the Oahe Dam to St. Louis.

The DEIS fails to address another important issue, the possibility that about 80 percent of the Corps' land along the Standing Rock and Three Affiliated Tribes reservations could be transfered from public ownership to the United States, in trust for the tribes. If the land tranfer goes through, it could prompt similar transfers on all the reservations adjacent to federal water projects nationwide. If land is removed from public ownership, the Corps will probably have little or no say in how the land will be managed. Also, if the Corps pursues the land transfer, it will significantly delay the progress of the DEIS.

The preferred alternative cannot solve all problems associated with the Missouri River. Revising water management policies will undoubtedly cause problems, some of which will be beyond the scope of the DEIS. After the Master Manual Review has been completed and a final alternative has been implemented, it would be wise to

consider a monitoring program that would show how effective the new policies really are. This monitoring program could be patterned after the Long-Term Research and Management Program now being conducted on the Mississippi River.

WYOMING

Governor Jim Geringer

The changes in the preferred alternative are a first step toward equity within the basin. Wyoming is particularly pleased to see the proposed decrease in the navigation season and the proposed changes to the rule curves for navigation release support. These changes, especially the increased storage in the reservoirs, will improve the system's ability to cope with drought.

Since the closing of the reservoirs, the Missouri River storage system has been operated with a bias toward downstream navigation. The Corps' own analysis shows that the navigation releases produce a pittance of benefits, far overshadowed by the much larger benefits of recreation and wildlife uses.

The state engineer's office would also like to remind the Corps that releasing Missouri River water for downstream Mississippi navigation is not an authorized use.

It is imperative that the Corps begin to adequately address the issues raised by the Fish and Wildlife Service in its Biological Opinion for this draft EIS. Although the proposed spring rise may begin to address some of these concerns, additional measures may be needed. Since the proposed spring rise generated considerable controversy basinwide, it might be advisable to consider a smaller release that would last a shorter time.

It is wise to address endangered species issues as early in the planning process as possible. To alleviate a jeopardy opinion, the preferred alternative may need substantial revision, and additional public comment periods may be necessary.

Wyoming is concerned that the Corps did not propose an increased minimum pool in its preferred alternative. Wyoming's analysis indicates significant benefits in raising the minimum pool above the current 18 million acre-feet. We suggest that the Corps re-consider raising the minimum pool to 44 million acre-feet.

We appreciate the complexity of developing an operating scheme for a system as large and economically diverse as the Missouri River, and we commend the Corps for its efforts in this tremendous task.

Although the Missouri River does not flow through Wyoming, about two-thirds of the state lies within the Missouri watershed. Therefore, Wyoming is concerned about the impact that downstream issues can have on upstream water management. We appreciate the opportunity to participate in the Missouri River Basin Association and in the Master Manual Review process.

TRIBAL REPORTS

MNI SOSE INTERTRIBAL WATER RIGHTS COALITION

The Corps has not adequately considered how the preferred alternative will affect tribal sacred areas, burial grounds and cultural objects. It has not determined the impact on the tribes' water rights and economy. It has not properly analyzed the impact on hydropower.

The Corps has identified hundreds of historically or culturally significant sites, but many more remain to be documented. By law, the Corps is required to give special consideration to protecting important archeological sites, and the agency's DEIS acknowledges the importance of doing so. However, the Corps makes no effort to study ways to protect those resources. Instead, the Corps has come up with a self-serving generalization that all alternatives for system operations have the same impacts on Native cultural resources. There is no rationale or justification in support of this. Consequently, the DEIS is fatally flawed.

The Corps, in close cooperation with the tribes, should undertake a comprehensive study to identify cultural resources and find ways to protect them. These sites cannot be valued in the same manner as barge traffic or recreation, so the Corps should not attempt to evaluate them with its computer model. Instead, each alternative should include a narrative description of its impact on important tribal cultural resources.

Although the Corps ultimately concludes that it cannot mitigate the impacts its operations will have on the tribes' cultural resources, the agency also states that different water management regimes will have different impacts at different sites. Clearly, the Corps can mitigate the damage to culturally significant sites.

Also, the DEIS uses an inaccurate description of the issues of cultural resources. For example, it refers to "prehistoric" artifacts along the Missouri River, which in reality are human remains and cultural objects from recent generations. In fact, some of the sites are still used for religious purposes. The description should be rewritten.

Further, the Corps' reference to the tribes' religious and spiritual motives as "mystic" is ridiculous, insulting and inaccurate.

The DEIS makes no reference to including Indian tribal governments in protecting the tribes' cultural re-

sources. Mni Sose finds this to be highly objectionable.

The DEIS also fails to adequately analyze how the preferred alternative will affect the tribes' economy and water rights. Display of the impacts of the preferred alternative on the tribes' economies is required.

The basin's Indian tribes have the right to use water from the mainstem Missouri River, its tributaries and its aquifers. The tribes have exercised sovereignty and dominion over all lands and waters of the Missouri River basin dating from time immemorial. The tribes retain their rights to the use of water without diminishment. The rights are not federal rights. They are Indian rights, stemming from Indian possession and dominion since before the memory of man. They are vested rights. Neither the rights nor the measurement of the rights are limited to agriculture or viable fishery purposes, as suggested by the Corps.

Therefore, the Corps must treat all Indian water rights, including those that are still unadjudicated or unsettled, with equal force and dignity in its DEIS. The DEIS acknowledges some Indian water rights on the Fort Peck, Northern Cheyenne and Wind River reservations, but it fails to address unadjudicated and unsettled water rights on other reservations. Water requirements on some, but not all, reservations represent a total annual diversion of 16,686,000 acre-feet and a total annual depletion of 8,638,000 acre-feet. The amounts of potential claim are considerably greater than the amounts the Corps considered in its DEIS.

The Missouri River Basin Project and earlier Bureau of Reclamation projects have relied heavily on Indian water rights. It's not surprising that the federal government has not been a strong advocate for Indian water rights, since the United States depends on Indian water for generation of electricity at the dams, and since non-Indian water users throughout the semi-arid West also rely on water claimed by the tribes.

The DEIS must recognize the critical need to preserve Indian water rights in the basin. Despite the Corps' conclusion that the tribes are not entitled to storage allocations in the reservoirs, allocating some of the reservoirs' storage capacity for Indian purposes might be a physical solution for tribes when other means of preserving, protecting and developing Indian water rights are impractical or are foreclosed.

Before the final EIS is prepared, the Corps and Western Area Power Administration should reach an agreement on the impact of the preferred alternative and the amount and the price of hydroelectric power that will be available to WAPA's customers in the future.

MRBA hires facilitation team

River Group to help MRBA build consensus on Master Manual

The Missouri River Basin Association has contracted with a group of consensus-building experts to help the Missouri basin's states and tribes address issues related to the Master Manual review.

The River Group, a team of people experienced in dealing with public policy issues and consensus processes, has extensive knowledge of the basin's political, cultural, commercial and environmental issues. Many members of the River Group represent organizations located in the Missouri River basin.

The project will be spearheaded by Gerald Mueller, a former Montana representative to the Northwest Power Planning Council, and Miranda Duncan, director of the Dispute Resolution Program in the University of Missouri at St. Louis.

Many complex and divisive issues arose from the Corps' recent review of the Master Manual and subsequent publication of a Draft EIS. The River Group will help the MRBA develop and implement a process that involves a wide array of interested individuals and organizations in addressing some of those issues.

In the future, the Missouri River Report will track the group's progress, along with other news of people who are working to build consensus on the Master Manual.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Executive Assistant

MRBA OFFICERS:
PRESIDENT: Jim Brown, Iowa State Water Coordinator
VICE PRESIDENT: Mark Simonich, Director, Montana Dept. of Natural Resources & Conservation
SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
Dave Sprynczynatyk, North Dakota State Engineer
Reese Peck, Deputy Secretary, SD Dept. of Environment & Natural Resources
David Pope, Chief Engineer, Kansas Division of Water Resources
David Shorr, Director, Missouri Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Richard Bad Moccasin, Mni Sose Tribal Water Rights Coalition, Rapid City, SD

FEDERAL REPRESENTATIVES:
Duane Sveum, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
U.S. Environmental Protection Agency
James Kircher, U.S. Geological Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT-Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. BOX 9193
MISSOULA, MT 59807
PHONE (406) 542-6272
FAX (406) 542-7585

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MISSOURI RIVER BASIN ASSOCIATION
P.O. BOX 301 LEWISTOWN, MONTANA 59857-0301 PHONE 406-538-4469

SEPTEMBER 1995

River Group helps MRBA work toward consensus

by Susan Risland

With the help of a negotiating team, the Missouri River Basin Association has begun systematically working toward agreement on 24 issues of concern in the basin. By presenting a united front, the basin's states and tribes plan to exert a stronger influence over water policy decisions.

"Narrowing the scope of the differences among the states is an important task," said Richard Opper, Executive Director of MRBA. "I think we will reach agreement on a very wide variety of issues that the Corps is having to deal with in its review of the Master Manual."

During the past few years, the U.S. Army Corps of Engineers has been reviewing its Master Manual, the operating plan for the Missouri River. In 1994, controversy arose among the basin's states and Indian tribes in response to the Corps' new proposal for how the river should be managed. As an organization representing those states and tribes, MRBA has at times found itself caught up in the conflict.

Last May, MRBA hired the River Group, a team of consensus-building experts, to help the Directors agree on recommendations for managing the Missouri River. By next summer, MRBA plans to deliver its recommendations to the U.S. Army Corps of Engineers and other federal agencies. Although the Corps will be under no legal obligation to abide by MRBA's requests, Opper said, "We expect that the Corps will take us very, very seriously," if the states and tribes present a united front.

The Corps, the Environmental Protection Agency, the U.S. Fish and Wildlife Service and other federal agencies participate in MRBA, in an advisory capacity. Therefore, Opper added, "They'll have a very good feel about what's coming."

In fact, Opper said MRBA began the project after "the Corps came to us and asked us if we could find ways to involve the states and the tribes in new ways to manage the river system." While developing its recommendations, MRBA will build on data and suggestions that the Corps compiled during the Master Manual review, but other options will also be considered. No recommendation will be presented to the Corps unless all the Directors have said that the outcome would be acceptable to them.

With the help of the River Group, MRBA has decided what it wants to accomplish, how it plans to do it and who will participate. The group started by breaking the process into man-

WE'VE MOVED!

Please note that the main office of the Missouri River Basin Association has moved to Lewistown, Montana. The new address is:

Richard Opper, Executive Director
P.O. Box 301
Lewistown, Montana 59457-0301
Phone: (406) 538-4467
Fax: (406) 538-4369

Newsletter articles can be sent to:
Susan Risland, Associate Editor
1600 Cooley #7
Missoula, Montana 59802
Phone and fax: (406) 721-4774

ageable steps without losing sight of the overall picture.

First, the Directors identified and prioritized 24 issues of concern to the basin. The plan calls for teams to write papers exploring those issues. Since most disagreements in the watershed tend to pit the upper basin against the lower basin, these teams always include at least one MRBA member from each of those areas. The teams will present their papers at MRBA meetings, where the entire group will try to agree on ways to resolve the issues under consideration.

So far, papers have been assigned on five of the 24 issues relating to the Master Manual: 1) a comprehensive monitoring plan, 2) controlling flows to minimize damage to resources, 3) federal reserved water rights and tribal water rights, 4) system-wide flood control, and 5) fulfilling the benefits promised under the Pick-Sloan Plan.

Opper reported that when some of the papers were presented during the last MRBA meeting, in late August, "One of the things we came to immediate agreement on is that there needs to be a monitoring program for the Missouri River basin." MRBA is working with members of the Missouri River Natural Resource Committee to design a prototype for such a monitoring program.

The Directors also agreed that the issue of erosion rarely causes conflict among upstream and downstream states. All the states would like to prevent erosion from eating away land along the river and filling the reservoirs with sediment, but they also realize that erosion contributes sediment which is needed to maintain fish and wildlife habitat. The team assigned to this topic will study it further before MRBA drafts a recommendation on the issue.

The other three issues are still under consideration and will be discussed at the next MRBA meeting, on Sept. 22. "I'm really optimistic that we'll find other areas to agree on at our next meeting," Opper said. "I certainly feel good about where we're going and how fast we're getting there, and I credit the River Group with that. They're doing an excellent job of keeping us on task."

The River Group has assigned two facilitators, Gerald Mueller and Miranda Duncan, to moderate at MRBA meetings. They help the Directors communicate more effectively and move toward agreement on contentious issues.

"We're there only to help them with the process. We keep them focused," said Mueller. "We listen to what they're saying. We try to say it in a different way, so they can hear what's being said. Part of building agreements is being able to listen."

He explained that he tries to help the Directors present their ideas in a non-threatening way that allows others to agree with them, always keeping in mind that the goal is to reach agreement, not merely to win an argument. The key, he said, is for participants to ask for what they want, instead of trying to keep others from getting what they want.

Both facilitators are experienced in this type of mediation. Duncan is director of the Dispute Resolution Program with the University of Missouri at St. Louis. Mueller is a former Montana representative to the Northwest Power Planning Council. He also worked with the Northern Lights Institute when it convened the Missouri River Assembly, from 1989 through 1990.

Mueller said that Northern Lights intended the Missouri River Assembly to provide a forum for discussing various issues, much as MRBA does today. Mueller commended MRBA for working together as well as it does, and for arranging to discuss the issues in an orderly, cooperative manner.

Opper agreed that the process is off to a good start. "We have a lot of the right people at the table," he said, citing MRBA's Directors, who represent a wide range of constituents and who have learned to trust each other during their years of working together. "And we certainly have the ear of the critical federal agencies involved," he added. "We're disappointed that South Dakota has decided to drop out of the association, but we're optimistic that we'll still be able to accomplish what we set out to do."

South Dakota drops out of MRBA

South Dakota withdrew from the Missouri River Basin Association during one of the organization's regular meetings in August, but MRBA's consensus-building project will continue despite the setback.

In a letter which was read at the meeting, Nettie Myers, secretary of the South Dakota Department of Environment and Natural Resources, said that she and Gov. Bill Janklow "believe the association's efforts will not result in a Missouri River master manual that will meet the contemporary needs of the upper basin states."

Over the past six years, the Army Corps of Engineers has reviewed its master operating plan for the Missouri River. South Dakota, North Dakota, Montana and Wyoming have contended that more water should be stored behind the giant dams in the upper half of the river basin. In contrast, the lower basin states of Iowa, Kansas, Nebraska and Missouri have called for releasing water from the reservoirs to keep the Missouri flowing deep enough for navigation and other uses. Other differences of opinion have also been voiced throughout the basin.

This year, MRBA hired a team of consensus-building experts to help the basin's states and tribes agree on a list of recommendations to present to the Corps next summer. [See related article, page 1.] Although South Dakota now has no MRBA representative to speak for it, Directors from the other upper basin states will try to make South Dakota's views known as the process continues.

MRBA now consists of Directors appointed by Montana, North Dakota, Wyoming, Iowa, Nebraska, Kansas, Missouri and the Mni Sose Intertribal Water Rights Coalition. Nine federal agencies, including the Corps, also participate but have no voting rights in the association.

First plovers known to have hatched in captivity
CORPS AND ZOOS SAVE ENDANGERED BIRDS

Nearly 200 eggs from piping plovers and least terns, both endangered species, hatched in captivity after being rescued from flooding along the Missouri River this summer.

The U.S. Army Corps of Engineers invited the Milwaukee County Zoo and Chicago's Lincoln Park Zoo to help save some of the eggs when unusually high rain and mountain snowmelt forced the Corps to release water from behind dams on the Missouri. The resulting rise downstream would have destroyed bird nests on the riverbanks.

A patron of one zoo provided a corporate jet to fly 200 workers to Yankton, South Dakota, on June 2. From there, workers collected plover eggs along the Missouri in North and South Dakota and brought them to the zoos for incubation. The International Crane Institute in Baraboo, Wis., loaned special crates for carrying the eggs. Later that month, the Corps collected more eggs and incubated them in its own facilities.

The piping plover was once a common sight in the Midwest, but now there are only about 5,500 of them left. This year's egg rescue produced the first plovers known to have been incubated and hatched artificially. The Corps hatched 67 terns and 96 plovers from 230 eggs, and the zoos hatched 24 plovers from 30 eggs.

Zoos have not previously displayed plovers, because the birds are so rare. It's possible that plovers could become so endangered that they must be raised in captivity to save them from extinction. To learn how to care for the birds in such an event, the two zoos will now keep the plovers they hatched.

The plovers and terns that hatched under the Corps' supervision will be released back into the wild this summer. It will be the first time that has been attempted for either species.

As overseer of the dams on the Missouri, the Corps must try to protect endangered species threatened by fluctuating water levels. Since the last dam was completed in the 1950s, the birds' riverbank habitat has been reduced by about 80 percent. Because they're concentrated in a smaller area, they're more vulnerable to predators, bad weather, and other threats. Of plovers that hatch in the wild, only about one in ten survives to maturity, even in a good year.

Durbin predicts "major-league environmental disaster"

Democrats oppose Republican plans for deregulation

Reprinted with permission from the Western States Water Council's newsletter, July 28, 1995.

After tabling the Comprehensive Regulatory Reform Act of 1995, Senate Majority Leader Robert Dole (R-KS) said he will continue trying to work with Democrats to address some of the remaining differences. However, further action is uncertain. Dole failed three times last July to get the requisite 60 votes to cut off debate and force a vote.

Essentially, the bill requires all federal agencies to conduct risk assessments and cost-benefit analyses prior to issuing rules that would cost $100 million or more annually.

Notwithstanding the setback in the Senate, House Republicans continued their move to curb what they view as excessive government regulation. On July 25, House members approved more than dozen legislative riders affecting a number of industries. Attached to spending bills, these riders would affect, among other things, regulation of toxic emissions, standards for radon and arsenic in drinking water, oil and gas industries' response to accidents, sewer overflows into rivers, and pesticide regulation.

Democrats seemed stunned. Representative Richard Durbin (D-IL) said, "This is a major-league environmental disaster for the U.S."

EPA Administrator Carol Browner said that riders in a House spending bill would "effectively create a moratorium on the Clean Water Act."

According to reports, various money bills moving through the House also would:

- ban new listings of endangered species,
- make it easier to build roadways in national parks and wilderness areas,
- sharply cut money for research programs to protect Pacific salmon,
- prohibit or curtail scientific research and surveys of species,
- limit the ability of government to declare wetlands and require property owners to be compensated for land values lost as a result of wetlands protection.

On July 18, the House approved an appropriation bill for the Interior Department that eliminates funds for new listings and pre-listing under the Endangered Species Act and reduces by one-third the funding for the National Biological Service. The appropriations bill provides $5.9 billion for the Department of the Interior, a 7.7 percent cut from fiscal year 1995 appropriations. The bill includes a provision to merge the National Biological Service with the U.S. Geological Survey, cuts U.S. Fish and Wildlife Service land acquisition monies from $58 million to $6 million, rescinds monies for the Land and Water Conservation Fund, and appropriates $87 million for the "orderly closure of the Bureau of Mines."

A regulatory sunset bill is also advancing in the House. H.R. 994 would require that federal regulations automatically terminate unless a federal agency determines that they should be continued. As approved recently by the House Government Reform and Oversight Committee, the bill would require such a review for rules costing $100 million or more. The bill calls for a seven-year sunset on all existing regulations and a three-year sunset for future regulations. The Comprehensive Regulatory Reform Act also contains a sunset provision that has been identified as one of a handful of contentious issues that must be resolved.

FEDERAL REPORTS

ARMY CORPS OF ENGINEERS

On Sept. 5, Colonel Richard W. Craig replaced Col. Michael F. Thuss as Commander of the Missouri River Division of the U.S. Army Corps of Engineers. In his new position, Col. Craig will supervise all Corps activities in the Missouri River basin.

During the August meeting of MRBA, Col. Craig assured the Directors that the Master Manual review is his number-one priority. He added that answers to some of the difficult questions posed by the study must originate within the basin rather than coming only from the Corps.

Col. Craig assured the Directors that the Corps will respond to all the comments it received during the public comment period on the Master Manual review. The colonel said he plans

to follow the schedule laid out by Col. Thuss, which calls for completing the technical studies by December 1996, completing the revised EIS by May 1997, and holding public hearings by September 1997.

The following background on Col. Craig is here reprinted with permission from the Corps:

Colonel Richard W. Craig was assigned as the Commander, North Central Division, U.S. Army Corps of Engineers, in August 1993. The division is headquartered in Chicago, Ill.

He managed a $330 million annual budget, oversaw $200 million in annual contracts in construction operations and directed an engineering, scientific and support staff of approximately 2,800. The division's major projects included navigation, flood control, disaster assistance, environmental restoration projects and regulatory functions.

Colonel Craig graduated from Maryville College, Tenn., in 1968 with a bachelor of arts degree in history. He also earned a masters of science degree in political science (public administration) from Western Kentucky University. He is a graduate of the Engineer Officers Candidate School, Infantry Officers Advanced Course, Army Command and General Staff College and National War College.

Colonel Craig previously served as the U.S. Army Corps of Engineers, St. Paul District's 54th district engineer and commander. Some of his responsibilities there included the operation and maintenance of the Nine-Foot Navigation Project on the Mississippi. St. Croix, Minnesota and Black rivers; flood damage prevention activities; operation of flood control and Mississippi River headwaters reservoirs and recreation areas; and Environmental Management Program activities on the Mississippi River.

Colonel Craig is a native of Jefferson, N.C., and is married to the former Mary Wadkins of Post, Texas. They have three children: Carla, Caleb and Sean.

STATE REPORTS

KANSAS

Governor Bill Graves

The 1995 Legislature, through Senate Bill 2588, created the Kansas Department of Agriculture. The department replaces the Kansas State Board of Agriculture, which was declared unconstitutional due to the method of election of the board and its secretary.

Under S.B. 2588, the governor now appoints the secretary of the department as a member of his Cabinet, subject to Senate confirmation. The bill also provides for a nine-member advisory board. The Division of Water Resources continues within the department with the statutory responsibilities of its chief engineer unchanged.

Following passage of the legislature, the Senate confirmed Secretary of Agriculture Alice Devine.

On July 31, Governor Graves appointed Al LeDoux as Director of the Kansas Water Office. Mr. LeDoux replaces Steve Hurst. The Kansas Water Office is in charge of the state's water planning process and water marketing.

MISSOURI

Governor Mel Carnahan

The Missouri River Constituency has reinvented itself to participate in the collaborative process to develop a new Missouri River operating plan. The organization was originally formed early in the Master Manual review process.

Members of the Constituency met in Jefferson City on July 6 to hear how the Corps plans to deal with voluminous testimony from 24 public hearings on the DEIS and the preferred alternative, and to learn about the scope and schedule of further work.

The Constituency was originally developed by the Missouri Department of Natural Resources to inform and involve various organizations, agencies, individuals, and industries about the process for revising the Master Manual. The group met four times in as many years, with an average attendance of more than 100 people. Those meetings, which were held in several cities along the river, featured updates by the Corps, field tours, issue presentations by agency personnel, and informative sessions to explain the complicated interrelationships in the Missouri basin.

The revitalized Constituency is an informal association led by the Missouri Farm Bureau. Various interest groups and agencies participate, and staff members of several of Missouri's 11-member Congressional delegation have been strongly involved. The group plans to meet regularly as the Corps' work progresses. Farmland Industries in Kansas City

will host the next meeting, on a date yet to be announced. The frequency and program content of future meetings will depend on the progress of the collaborative process.

In other news, both houses of the Missouri General Assembly unanimously passed strong resolutions urging the Corps of Engineers to "re-evaluate its proposal and maintain the current operation of the river or consider an alternative plan that does not negatively impact Missouri and other states bordering the Missouri River." The House passed its resolution on Feb. 23, early in the session, followed five days later by the Senate. Missouri's 1995 legislative session began early in January and ended in late May.

NEBRASKA

Governor E. Benjamin Nelson

Nebraska is expecting a heated debate over the comprehensive conjunctive use bill (LB 108), which will probably be voted on in the 1996 session. The bill was introduced before the state's legislature in 1995, but it was held up before any votes were taken.

The debate, which involves competing water users in Nebraska and neighboring states, revolves around attempts to reconcile two separate bodies of law. In Nebraska, surface water is governed by the prior appropriation doctrine. Ground water, including hydrologically connected ground water, is governed by a correlative rights doctrine.

One controversy centers on a compact that allocates water in the Republican River basin, where Kansas is threatening litigation. For several years now, Kansas has contended that Nebraska has been using more than its allotted share by allowing unrestricted ground water use within the basin. Nebraska has countered that ground water was not included within the original allocations. Nebraska also lacks the tools to effectively regulate ground water use.

Colorado has also helped force debate on conjunctive use. Faced with the need to relicense numerous front-range projects, Colorado must insure that the operation of such projects does not adversely impact threatened or endangered species in central Nebraska. Colorado has argued, however, that it should not be required to release flows to benefit endangered species in Nebraska when such flows will likely be consumed by irrigation in Nebraska, where pumping is not regulated. Colorado officials have not indicated that they would be willing to release flows to Nebraska if Nebraska adopts conjunctive use legislation.

The legislation to be debated in 1996 is the product of Governor Ben Nelson's Water Council, which was formed in 1993 to examine the state's water laws and hydrology and to determine whether it would be appropriate to change those laws.

NORTH DAKOTA

Governor Edward T. Schafer

Federal, state, local and tribal governments are cooperating in a water management planning effort involving the Cannonball River basin. The project's main focus is a study that will inventory the basin's water and land resources and develop a hydrologic model. The study, which began in January 1994, should be completed by the middle of next year.

The Cannonball River drains about 4,310 square miles, including portions of nine counties in southwestern North Dakota, about 96 square miles in South Dakota, and part of the Standing Rock Indian Reservation.

The U.S. Bureau of Reclamation, the Standing Rock Sioux Tribe, the North Dakota State Water Commission, local water resource districts, soil conservation districts, and several federal and state agencies are participating in the study.

Data from the study will help determine how to manage the basin's water resources. The study will also identify ways to communicate, coordinate and facilitate water resource management decisions in the basin.

Information from the study will be incorporated into a Geographic Information System (GIS) database, which will include data on transportation, streams and water bodies, land use and land cover, soils, hydrologic basin and subbasins, political units, recreation facilities, reservoirs, and rare plant and animal species.

The study's second product will be a hydrologic model to simulate how past, present and future water management and development affect the quantity and quality of stream flows in the basin. The model will be used to evaluate water management scenarios that will be developed through the study effort. The study will address various management issues, including environmental preservation and economic development.

The study will involve the public to document problems, needs and opportunities, both present and future, related to the basin's water resources. A study review team of local interests concerned with water resource

development and conservation has been formed to allow residents of the basin to review the study and voice their opinions. In addition, to learn how the public perceives water resource management issues, a survey was randomly sent to some residents of the basin.

The study is funded primarily through the "Missouri River Basin Tribes Water Management Study," a special investigation authorized in the U.S. Bureau of Reclamation's General Investigation Program. For various study tasks involving the portion of the basin that is not on reservations, the North Dakota State Water Commission will provide state in-kind cost-share funds.

WYOMING

Governor Jim Geringer

The Wyoming Natural Diversity Database branch of the Nature Conservancy in Wyoming recently completed a summary classification of the major riparian vegetation types of eastern Wyoming.

The project's first goal was to collect and disseminate information that could be useful for owners and managers of land. The results include information on the types and locations of riparian areas, and the nature, ecology, and distribution of riparian vegetation types.

Secondly, the project produced a classification system for organizing information from other studies and from future research on the management and ecology of riparian areas. The system groups stands of vegetation that are similar in composition and structure into the same vegetation type.

During 1991 and 1992, workers collected vegetation, described the physical environment and assessed the history and management of various field sites. A site was defined as at least a quarter-mile stream reach.

Work has been completed in the South Platte, North Platte, Niobrara, Cheyenne, Belle Fourche, Little Missouri, Powder and Tongue river basins of Wyoming. The Bighorn basin will be completed soon, and it is anticipated that the study methods can be extended to southwestern Wyoming, providing statewide coverage.

This research was funded by the Wyoming Department of Environmental Quality. For a copy of the study, contact Bill DiRienzo, with that department, at 307-777-7081.

TRIBAL REPORTS

MNI SOSE INTER-TRIBAL WATER RIGHTS COALITION

During the past year, the tribes have made substantial progress toward obtaining a direct allocation of hydroelectric power, but downsizing by Congress might impede further progress.

Congress wants to sell the Power Marketing Administrations, including the Western Area Power Administration (WAPA). The WAPA markets hydropower from the Missouri River dams.

Mni Sose and its member tribes have worked directly with WAPA personnel in Billings, Mont., and their superiors at the Department of Energy in Washington, D.C. The Department of Energy is clearly behind the government-to-government philosophy.

Mni Sose has been working to educate House and Senate subcommittees about the government's responsibilities and how the proposed sale could affect the basin's economy and rural communities. In June, the tribes also testified at a special hearing in South Dakota.

Our success may depend on rules in WAPA's final marketing plan for the years 2000 through 2020, due for release this month. Mni Sose expects the plan to call for more profit from WAPA, to justify its existence. Mni Sose is evaluating the potential for tribal ownership of the generation facilities.

Meanwhile, WAPA has finalized the environmental impact statement for its Energy Planning and Management Program, which aims to encourage planning and efficient energy use by WAPA's long-term power customers. The WAPA will now enter into power contracts directly with the tribes, regardless of utility status. Most power contracts will take effect in the year 2000 and will run for 18-20 years. There will be a six percent withdrawal from current customers for a new customer pool, which Mni Sose has been targeting for allocation to the tribes. Most tribes will qualify as small customers, not subject to the Integrated Resource Planning process.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Associate Editor - Newsletter

MRBA OFFICERS:
PRESIDENT: Jim Brown, Iowa State Water Coordinator
SECRETARY: Michael Jess, Director, Nebraska Dept. of Water Resources
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
Dave Sprynczynatyk, North Dakota State Engineer
David Pope, Chief Engineer, Kansas Division of Water Resources
Bud Clinch, Director, Montana Dept. of Natural Resources & Conservation
David Shorr, Director, Missouri Dept. of Natural Resources

TRIBAL REPRESENTATIVE:
Richard Bad Moccasin, Mni Sose Tribal Water Rights Coalition, Rapid City, SD

FEDERAL REPRESENTATIVES:
Duane Sveum, Corps of Engineers
Neil Stessman, Bureau of Reclamation
Richard Whitesall, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
U.S. Environmental Protection Agency
James Kircher, U.S. Geological Survey
Jim Davies, Western Area Power Administration
Max Louden, U.S. DOT — Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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Consensus-building process continues

by Susan Risland

MRBA has decided to initiate a basinwide monitoring program, and to recommend that the Corps drop the idea of a spring rise and acknowledge in the Master Manual that tribal water rights exist.

The Directors reached agreement on these issues and discussed various others as part of their continuing efforts to exert a stronger influence over water policy decisions by presenting a united front to the federal government.

Since last May, MRBA has been working with a team of consensus-building experts to reach agreement on issues that have divided the basin's states and tribes in the past. By this summer, the Directors plan to deliver a list of recommendations to the U.S. Army Corps of Engineers and other federal agencies. Over the winter, they discussed various issues in depth, presented papers which outline the problems and possible solutions, and enlisted the aid of several agencies and committees.

Fish and Wildlife Habitat

One of the issues the Directors explored in depth was the Corps' proposed period of limited flooding in the springtime, which was designed to benefit threatened and endangered species. MRBA has agreed that this would be the only benefit of such a flood, and the high water would cause various problems, including damage to croplands. Therefore, the association has decided to recommend that the Corps drop its plan for a spring rise and investigate other ways to improve habitat along the river.

To help identify some alternatives, the Directors have been consulting with the Missouri River Natural Resource Committee (MRNRC) and the U.S. Fish and Wildlife Service (FWS). Among other things, they've discussed programs that provide money to buy land or conservation easements near the river. At an upcoming MRBA meeting, the FWS plans to present a paper on habitat issues and opportunities to resolve them. MRBA is considering working with a technical committee, such as the MRNRC, which would flesh out the details of plans that MRBA generates. Agricultural interests might be included in the committee.

Monitoring Plan

Since August, the Directors have been working with the MRNRC to design a prototype for a basinwide monitoring program. Such a program would document the current hydrological and biological conditions of the river system and would track the effectiveness of programs designed to improve the basin's fish and wildlife resources.

In designing the prototype, the Directors have drawn inspiration from a similar monitoring program now in use on the upper Mississippi River, but they've tried to avoid its shortcomings. For one thing, they've considered involving environmental enforcement agencies in designing and implementing the program. They're also considering including water-quality sampling in the program,

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and monitoring some of the basin's major tributaries, instead of focusing on the Missouri only.

Water Rights

The Directors are continuing their discussion of water rights for Indian tribes. So far, they have agreed that:

1. During its review of the Master Manual, the Corps should acknowledge that quantified and unquantified tribal water rights do exist.
2. The Corps is not the appropriate entity to be determining the quantification of those rights.
3. Water rights reserved to Indian tribes become a Master Manual issue when the tribes draw enough water out of the river to affect other aspects of the system's operation.

Other Issues

During the next few months, MRBA plans to address additional issues and will be considering how to involve various river users in its discussions.

Corps releases 1996-1997 AOP

The U.S. Army Corps of Engineers has announced that this year's plan of action for the Missouri River is the same as last year's.

A new Annual Operating Plan (AOP) is written each year, allowing the Corps to accommodate for varying circumstances while still meeting the requirements of the overall operating plan for the river, the Missouri River Master Water Control Manual (the Master Manual).

This year's AOP follows the dictates of the Master Manual except in two areas. First, the Corps will adjust flows to benefit threatened or endangered species that live along the river. This concern is not addressed in the Master Manual, because it was drafted in 1960, before the Endangered Species Act was passed. Second, the AOP will shorten the navigation season by two weeks if the basin experiences extreme drought.

As usual, the AOP for the Missouri River has three primary components: the amount of water to release from the reservoirs during navigation season; the length of the navigation season; and how much water to release during winter, the non-navigation season.

While designing this year's AOP, the Corps studied five possible scenarios, ranging from floods to drought, and how they would probably affect total water storage in the reservoirs on three specific dates: March 15, July 1, and Sept. 1. Figure 1 shows these five scenarios and how much water they would involve.

1995-1996 Winter Flows

This winter, the Corps has released large amounts of water from the reservoirs to make room for spring runoff.

Winter releases are based on the amount of water in storage on Sept. 1. If the reservoirs hold 58 MAF of water on Sept. 1, the Master Manual dictates that the Corps release 15,000 cubic feet per second (cfs) from Ft. Randall Dam. If storage is only 43 MAF on Sept. 1, the rate of release is supposed to be 5,000 cfs. For storage levels between 43 MAF and 58 MAF on Sept. 1, winter releases are to be increased proportionately.

FIGURE 1

Runoff Designation	Definition	Runoff *
Upper Decile (UD)	10% chance of runoff being this high	33.3 MAF
Upper Quartile (UQ)	25% chance of runoff being this high	30.0
Median	Average runoff year	24.6
Lower Quartile (LQ)	25% chance of runoff being this low	19.2
Lower Decile (LD)	10% chance of runoff being this low	15.4

(*Runoff is measured in million acre-feet. One acre-foot is the amount of water required to cover one acre to a depth of one foot.)

Last fall, the system storage on Sept. 1 was 66.0 MAF, well above the 58 MAF required for full winter releases from Ft. Randall Dam. Because the reservoirs contained so much water this year, the Corps released between 17,500 cfs and 18,500 cfs from Ft. Randall during the winter.

Navigation

The existing Master Manual specifies how much water will be released to support navigation, and
how long the navigation season will be. This year's AOP follows those guidelines, with the exception of a shorter navigation season during extreme drought.

When there's adequate water flowing into the system (median, UQ, or UD scenarios), enough will be released to fully support navigation for eight months, with a 10-day extension if runoff is unusually high.

When there's less water, less is released. Under the LQ or LD scenarios, flows in the river would be reduced by 100 cfs and 1,300 cfs, respectively, next fall. If extreme drought arises, like the one which hit the Missouri basin in 1988, the AOP calls for ending the navigation season two weeks early. This additional water conservation measure does not follow existing Master Manual requirements, but results from the lessons learned during the recent drought when similar reductions were imposed.

As usual, support for navigation will be based on how much water is in the system on March 15 and
July 1.

Fish and Wildlife Species and Habitat Enhancement

Least terns, an endangered species, and piping plovers, a threatened species, live along the Missouri River. They nest on sandbars and rocky shorelines close to the river's edge. Low river flows expose more of the habitat the birds need during their nesting season. Once the birds begin to nest in the spring, the Corps cannot increase flows without the risk of flooding the nesting sites.

The AOP provides for releasing less water from Fort Peck and Garrision reservoirs, when possible, during the nesting season to help terns and plovers downstream.

In May, more water will be released from the two reservoirs to scour vegetation from the sandbars and shorelines, reducing the cover for predators and therefore enhancing habitat for nesting birds.

Later, during the nesting season from mid-June through August, releases will be lowered unless there is exceptionally high runoff (UD scenario). In that case, the Corps must release more water, because the reservoirs can hold only so much floodwater. If UD conditions occur, the Corps will work closely with the U.S. Fish and Wildlife Service as it did last year, to ensure the best possible outcome for the birds without jeopardizing its flood control responsibilities.

Expected Results

The AOP and the Master Manual were designed to cover various contingencies and to supply water for many competing uses. According to the Corps:

- When the spring runoff season begins on March 1, the Corps expects the reservoir system to contain about 57.2 MAF of water, the most desirable level for flood control.
- Since the Corps has released more than the average amount of water from the dams this winter, it expects to meet all water supply and water quality requirements for the Missouri below Gavins Point and between the reservoirs.
- The Corps expects to release more than enough water from the reservoirs to meet irrigation requirements.
- The AOP includes estimated requirements for various uses of electricity throughout the year.
- The AOP also allocates water for recreation, fish and wildlife needs, and other uses of the river. Whenever possible, the Corps will adjust its operation of the river to accommodate such uses.
- If precipitation is normal this year, the Corps system storage will probably total about 57.9 MAF by the end of December.

Corps ordered to eliminate division offices

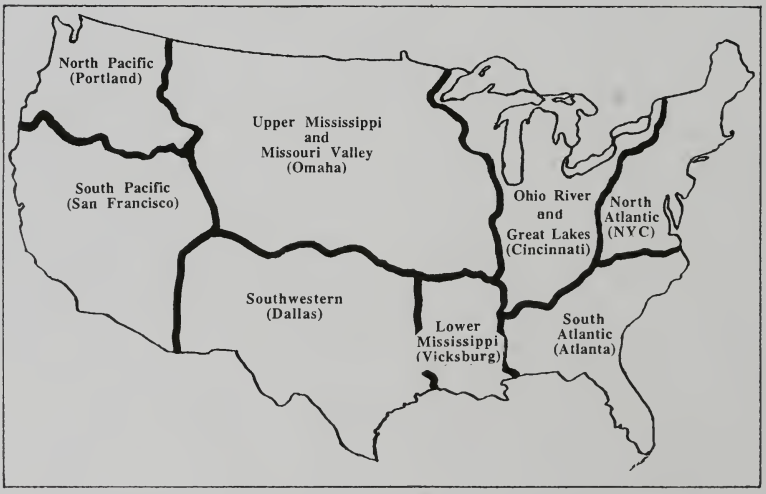
Overall downsizing could greatly increase Missouri Division

The size of the Missouri River Division would increase greatly, possibly combining with the upper Mississippi basin, under a proposed restructuring of the U.S. Army Corps of Engineers.

The new Upper Mississippi and Missouri Valley Division, headquartered in Omaha, Neb., would cover nearly a million square miles, making it one of the largest in the nation.

It would consist of the Kansas City and Omaha districts, which currently form the Missouri River Division, along with the St. Paul, Minn.; Rock Island, Ill.; and St. Louis, Mo. districts, which currently belong to the North Central and Lower Mississippi Valley divisions.

The restructuring has been proposed in response to a Congressional mandate, the 1996 Energy and Water Development Appropriations Act, which directs the Corps to reduce its 13 division offices to no less than six and not more than eight. Each division is required to have at least four subordinate districts, and no district that currently exists may be closed or have its function changed.



Proposed New Divisions, Corps of Engineers

The map shows, roughly, the areas and central offices of the eight new divisions under a proposed restructuring of the U.S. Corps of Engineers. The borders generally follow the dividing lines between watersheds instead of state boundaries.

When the mandate was being considered last fall, the Missouri River Basin Association suggested combining the two watersheds into one division, since the two rivers both run through the high plains states and already share many issues and programs. The Corps agreed, and it noted that creating such a division would help keep work disruptions and relocation of personnel to a minimum while maintaining customer service.

The new division would be responsible for all water resources, military design and construction, and hazardous toxic and radioactive waste cleanup work performed by the Corps in 11 states in the Missouri and upper Mississippi river basins.

Under the proposed restructuring, the Corps would have eight divisions, which would include the following cities:

1. *Upper Mississippi and Missouri*
   Omaha, Kansas, St. Louis, St. Paul, Rock Island;
2. *Lower Mississippi*
   Memphis, Vicksburg, New Orleans, Little Rock;
3. *Ohio River and Great Lakes*
   Louisville, Huntington, Pittsburgh, Nashville, Detroit, Buffalo, Chicago;
4. *North Atlantic*
   New York, Philadelphia, Baltimore, Norfolk, New England;
5. *South Atlantic*
   Mobile, Jacksonville, Savannah, Charleston, Wilmington;
6. *North Pacific*
   Alaska, Portland, Seattle, Walla Walla;
7. *South Pacific*
   San Francisco, Sacramento, Los Angeles, Japan, Far East (Korea), Honolulu;
8. *Southwest*
   Albuquerque, Fort Worth, Galveston, Tulsa.

The Secretary of the Army will now consider the plan and submit recommendations to the U.S. House of Representatives in mid-March. Implementation of the final plan is scheduled to begin by at least August 15 and to be completed by Oct. 1.

For a copy of the plan, call the Corps' Missouri River Division at 402-697-2552. To comment on the plan, contact your representatives in Congress.

FEDERAL REPORTS

ARMY CORPS OF ENGINEERS

Sveum retires; MRBA gets new board member

Terry Schlaht has been selected to serve as the Corps' new representative on MRBA's advisory board. Col. Richard Craig, Commander of the Corps' Missouri River Division (MRD), made the appointment this January after the retirement of the Corps' former MRBA director, Duane Sveum.

Sveum, Chief of the Corps' Reservoir Control Center since 1983, retired from the Corps on January 3. He spent 21 years working for the Reservoir Control Center, serving as its chief for the past 12 years.

In addition to the extraordinarily complex task of managing the reservoirs on the Missouri River, Sveum endured droughts and floods and the accompanying political and legal conflicts they produced during his career with the Corps. He also had to incorporate the protection of endangered species into the reservoir management plans.

"He has handled every challenge with an uncommon amount of skill, grace and wit," said Richard Opper, Executive Director of MRBA. "He has earned the unqualified respect of everyone familiar with his work, and we will certainly miss him."

Sveum's successor is also no stranger to the complexities of water management. As the Acting Chief of the MRD's Planning Division, Schlaht is responsible for comprehensive water resources development programs in the Missouri River Basin; all civil works planning programs relating to project formulation, economics and environmental activities; and application of policy and legislation.

Schlaht holds bachelor's and master's degrees in civil engineering and has spent 35 years working with the Corps in the Omaha District Office and in the Missouri River Division.

High runoff in 1995

OMAHA -- The Corps of Engineers has estimated that the six mainstem dams on the Missouri River prevented about $1.9 billion in flood damages in 1995. That figure is the second-highest on record, topped only by the $4.5 billion estimated for 1993, when the dams helped control some of that year's catastrophic flooding.

In 1995, rainfall was above average, and a record amount of snow fell in the mountains late in the season. Consequently, a record amount of water was stored behind the dams during the spring and summer to prevent flooding downstream. In midsummer and fall, the dams released large amounts of water to lower the level in the reservoirs.

According to Colonel Richard Craig, Missouri River Division Commander, runoff was above normal for every month except September, with a yearly total of 37.6 million acre-feet (MAF), 153 percent of normal. In the 98 years of record keeping, only 1978 was higher with 40.6 MAF.

Below Gavins Point Dam near Sioux City, most tributary rivers, including the James and Big Sioux, rose to record levels in May. "Downstream flooding kept Gavins Point releases at near record low levels. As a result, record reservoir levels were reached at Oahe and Fort Randall during June," said Colonel Craig.

In North Dakota, flows from Garrison Dam were record lows in both June and July. Behind the dam, Lake Sakakawea climbed to its second highest level during July.

Through special efforts, the Corps and teams from two zoos rescued nearly 200 endangered least tern and piping plover eggs from islands below the projects in North and South Dakota, where the bird's nests were threatened by high water. Afterward, releases were increased beyond power plant capacity at Fort Randall Dam and Gavins Point Dam and to full power plant rates at Garrison Dam. High releases continued from midsummer until late fall to draw down storage to the base of the flood control pool by March 1, 1996.

By the end of December, the reservoir system was storing 58.4 MAF of water, down a whopping 9.7 MAF since the crest of 68.1 MAF in late July.

Releases from Gavins Point Dam, near Sioux City, averaged 27,600 cubic feet per second (cfs) in December. Releases were reduced from 50,000 cfs early in December to 23,000 cfs by December 10. "Due to mild weather, we were able to hold 23,000 cfs throughout December," said Colonel Craig. Releases were cut to 20,000 cfs on January 3. During January, the Corps planned to increase releases to 23,000 cfs as soon as weather permitted, and to keep Lewis and Clark Lake near elevation 1,207 feet above mean sea level (msl).

Just upstream, Fort Randall Dam releases averaged 22,000 cfs in December. Lake Francis Case continued refilling throughout January and was expected to reach an elevation of 1,350 feet msl by the end of the month.

Lake Oahe, in the middle of South Dakota, ended the month at 1,608.3 feet msl, its second-highest elevation on record for the end of December. The lake dropped less than a foot during January.

In North Dakota, Garrison Dam releases averaged 20,200 cfs during December. Releases were gradually increased to 22,500 cfs. At the end of December, Lake Sakakawea stood at 1,839 feet msl. It was a foot lower by the end of January.

In Montana, releases from Fort Peck Dam averaged 10,500 cfs and were gradually increased to 13,500 cfs. Fort Peck Lake dropped to an elevation of about 2,237 feet msl by the end of January.

The six mainstem power plants generated 852 million kilowatt-hours (kWh) during December, 116 percent of normal. Annual production totaled 10.4 billion kWh. Normal generation is 10 billion kWh. The near-record generation this fall was offset by the near-record low generation during the spring and summer months, when releases were reduced to prevent flooding downstream.

By mid-January of 1996, the mountain snowpack was 117 percent of normal above Fort Peck Dam in Montana, and 132 percent of normal between Fort Peck Dam and Garrison Dam in North Dakota. If normal precipitation occurs

during the year, the Corps forecasts that runoff in 1996 will total 26.1 MAF, 106 percent of normal.

Lancaster is new Assistant Secretary of the Army, Civil Works

H. Martin Lancaster was confirmed by the Senate in January as the new Assistant Secretary of the Army, Civil Works. He conducted a video teleconference with all Corps commanders on Jan. 30 to share his thoughts on his new position.

John Zirschky, who has served for the past 2 1/2 years as the acting ASACW, will revert to his permanent role as the principal deputy.

Formerly the Director of the U.S. Arms Control and Disarmament Agency on the Chemical Weapons Convention, Lancaster served four terms as a Congressman from North Carolina. During his tenure he served on the Armed Services, Small Business and Merchant Marine and Fisheries committees.

Lancaster was born and raised on a tobacco farm in North Carolina. In 1965, he graduated from the University of North Carolina at Chapel Hill. He received a law degree from that university two years later. He served as a Judge Advocate in the U.S. Navy, made two cruises to Vietnam, completed his Navy duty at the Naval District Washington, and served as an active Reservist until his retirement as a captain in 1993.

Lancaster practiced law in North Carolina and was involved in various civic endeavors until his election to the state House of Representatives. He held that office from1978 until 1987, then served in the U.S. House of Representatives from 1987 through 1995.

STATE REPORTS

NEBRASKA

Governor E. Benjamin Nelson

The ongoing debate over conjunctive use of ground water and surface water will continue during the state's 1996 legislative session, as Senator Chris Beutler attempts to push along his LB108. The bill, which was introduced during the 1995 legislative session, is principally the product of Governor Nelson's Water Council. It's an attempt to settle a water-rights dispute between people in Nebraska and neighboring states.

During the winter of 1994-1995, Beutler agreed to hold LB108 in committee so that additional input could be obtained. To that end, he held a series of legislative hearings during late summer and early fall. Several organizations offered amendments. Beutler promised to present his amendments and to press for early committee action. Now, several observers question whether enough support can be mustered from members of the committee to send LB108 forward.

Several other issues will be considered during the state's 60-day legislative session, which began on Jan. 3 and is technically a continuation of the 1995 session.

First, although fiscal matters are supposed to be addressed during odd-year legislative sessions, the 1996 session will probably deal extensively with fiscal matters because of expected changes in federal funding. Secondly, the Legislature will discuss several property tax initiative petitions, which reportedly carry the signatures of many disgruntled voters. Thirdly, the State Treasurer has reported that revenue receipts were below projections during the last quarter of 1995.

NORTH DAKOTA

Governor Edward T. Schafer

Devils Lake nearly went dry before the record-high precipitation of 1993. Then rain and snow flooded the basin and caused millions of dollars' worth of damage. North Dakota has devised a plan to moderate the lake's fluctuating levels and help prevent such widespread flooding.

The Devils Lake basin, in northeastern North Dakota, covers about 3,814 square miles (2,440,960 acres) and contains all or part of eight counties and a large portion of the Devils Lake Sioux Reservation. The basin is a non-contributing portion of the Red River of the North's drainage area.

The basin's relatively flat topography, constantly changing weather, and abundance of prairie potholes have caused various water management conflicts over the years. Recently, the most serious concerns have related to the preservation of wetlands and other wildlife habitats, the flooding of agricultural lands and public infrastructure, the viability of the Devils Lake fishery and the recreation industry it supports, and water quality.

The water level in Devils Lake has always fluctuated. The lake ranges between an elevation of 1,400 feet msl, when it is essentially dry, to about 1,457 feet msl, at which point it overflows naturally into the Sheyenne River.

John Bluemle, North Dakota State Geologist, recently wrote, "Changes in the lake level have been the rule rather than the exception over the years. The lake level rose to 1,440 feet msl several times in the past and it dropped to levels lower than 1,440 feet msl several times."

These fluctuations were happening long before farming, road construction, or wetland drainage altered the landscape. "The 'natural' condition for Devils Lake is either rising or falling, either toward overflow or dry lakebed," Bluemle wrote.

Just before record precipitation received in 1993, Devils Lake was at about elevation 1,423 feet msl and falling. Deteriorating aquatic habitat threatened to destroy the lake's $30 million fishery. Since then, the lake level has risen more than 10 feet, icing over at about elevation 1,435 feet msl.

After the unusually high precipitation of 1993, flood damages in the basin were estimated at about $40 million. Runoff from normal winter precipitation this spring could raise the lake two feet and potentially cause about $50 million in additional damage.

To alleviate further damages, the state has devised the Devils Lake Emergency Response Plan, which consists of two major components: the Devils Lake/Stump Lake emergency outlet and the Upper Basin Water Retention Program.

The U.S. Army Corps of Engineers has issued a Section 404 permit for the outlet. The permit allows the project to move forward within specified constraints. As currently designed, the project will drain about one foot of water from Devils Lake. Construction is expected to start early in 1996.

The Upper Basin Water Retention Program was designed to reduce flooding around Devils Lake by storing 75,000 acre-feet of water in the upper basin. A letter was mailed to landowners and operators in the Devils Lake basin, asking them to allow the state to store flood water on their private property. Participation in the program is voluntary, and landowners would be compensated. Applications for potential storage sites are currently being processed.

It will probably take several years to stabilize Devils Lake. A long-term solution would most likely call for an outlet to route excess precipitation into the Sheyenne River and an inlet to bring water into the basin when precipitation is low.

WYOMING

Governor Jim Geringer

Governor Geringer hosted a Natural Resources Conference in Casper in December. The governor said he expected the conference to improve communications among various groups in the state. In addition, he asked those groups to provide him with their recommendations for changing state government's role in natural resource management.

About 300 people, representing all aspects of natural resources use in the state, attended the conference.

After hearing from a diverse panel of special interests, the attendees were split into groups of about 40 people. Each of these smaller groups focused on two or three areas of natural resource management and came up with a list of specific recommendations for changes needed in those areas. In late January, the governor met with members of the Natural Resource Cabinet members in Wyoming to determine which of the groups' recommendations can be implemented.

During the conference, a luncheon speech by Jack Ward Thomas, Chief of the Forest Service, was well received. He emphasized the need for everyone to work together, and to remember that government consists of individuals who are, for the most part, doing their best.

The governor has held three previous conferences, which have explored issues related to education, minerals, and small businesses.

South Dakotan appointed to water commission

President Clinton appointed John H. Davidson of South Dakota to serve as a member of the Western Water Policy Review Advisory Commission last December.

The commission was authorized as part of the Reclamation Projects Authorization and Adjustment Act of 1992 and is charged with reviewing activities that affect the allocation and use of water resources in 19 Western states.

Davidson is a professor of law at the University of South Dakota. He teaches courses in water law, public lands law, environmental law and property law.

He has written widely in these fields, including books on agricultural law and environmental law. He is also very familiar with issues affecting management of the Missouri River and has previously contributed articles to this publication, "The Missouri River Report."

Davidson was admitted to the bar in 1967 and has been working in South Dakota since 1971.

Water conference to focus on Missouri River

A wide range of speakers will explore the past, present and future of the Missouri River at the 25th annual Nebraska Water Conference, set for March 13-15 at the Red Lion Inn in Omaha.

"The discussions surrounding the Missouri River and its future are challenging and of interest to many people," said Robert D. Kuzelka, assistant to the director in the Water Center/Environmental Programs Unit at the University of Nebraska-Lincoln, which co-sponsors the conference.

Speakers will include navigators, environmentalists, Native American rights experts, landowners and policy-makers. Historical perspectives, current solutions and future challenges involving the Missouri River will be addressed. Invited speakers include:

- John Thorson, Special Water Master, Phoenix, Arizona.
- Larry Cieslik, Master Manual Project Manager, U.S. Army Corps of Engineers
- Richard Opper, Executive Director, Missouri River Basin Association
- Susan Williams, Indian Water Law Attorney, Albuquerque, New Mexico
- John Galloway, Brigadier General, U.S. Army
- Tim Searchinger, Environmental Defense Fund
- John Ferrell, Historian, U.S. Army Corps of Engineers

The conference is sponsored by the Nebraska Water Conference Council, the Conservation and Survey Division, the Water Center/Environmental Programs Unit, the Institute of Agriculture and Natural Resources, the University of Nebraska-Lincoln, and the Nebraska Department of Water Resources.

For more information, call Robert Kuzela at (402) 472-3305, or Bettina Heinz at (402) 472-9549. Or write to the Water Center/Environmental Programs Unit, 103 Natural Resources Hall, University of Nebraska, Lincoln NE 68583-0844.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Associate Editor — Newsletter

MRBA OFFICERS:
PRESIDENT: Michael Jess, Director, Nebraska Dept. of Water Resources
VICE PRESIDENT: Bud Clinch, Director, Montana DNRC
SECRETARY: Richard Bad Moccasin, Mni Sose Tribal Water Rights Coalition
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Jim Wedeward, Bureau of Reclamation
Keith Beartusk, Bureau of Indian Affairs
Kent Keenlyne, U.S. Fish & Wildlife Service
U.S. Environmental Protection Agency
James Kircher, U.S. Geological Survey
Nick Stas, Western Area Power Administration
Max Louden, U.S. DOT — Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association
P.O. Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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P.O. BOX 301 LEWISTOWN, MONTANA 59457-0301 PHONE (406) 538-4469

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MRBA conference promotes basinwide cooperation

by Susan Risland

The strong spirit of basinwide cooperation at a conference in Bismarck, North Dakota, June 13-14 could indicate a basic change in the way water management issues will be addressed along the Missouri River.

"The conference got people to think like a basin, rather than a bunch of competing interests. We felt that we were asking way more from our participants than we had any right to expect, and they gave us more than we hoped for," said Richard Opper, executive director of the Missouri River Basin Association, which organized and hosted the event.

About 100 people, representing various interests from across the basin, attended the conference to explain their concerns and listen to others in a non-combative atmosphere. Throughout the meeting, participants showed a remarkable willingness to help devise solutions for each other's problems.

Many had been invited to participate in task forces. Others came to observe and comment. MRBA's board of directors and representatives of federal agencies were on hand to answer questions.

By the end of the two-day conference, participants had produced a lengthy list of suggestions for improving the way the river is managed. They had also reached a general consensus that many of those suggestions would not cause a great deal of controversy if they were initiated.

"We're trying to overcome the decades of confrontational politics that have dominated the decision-making in the basin. We're trying to come up with new ways of decisionmaking that will work better for all of us who live in the basin and depend on the river system," said Opper.

MRBA's directors are attempting to unite the basin so the people who live here will have more influence over water policy decisions.

The organization consists of representatives from all Missouri basin states except South Dakota, along with one representative for 22 of the basin's Indian tribes. Representatives of eight federal agencies serve as non-voting advisors to MRBA.

For the past 60 years, the federal government has managed the Missouri. Until now, issues were usually addressed through formal hearings, which tended to create an argumentative atmosphere. Because the hearings were structured around presentations instead of encouraging an open dialogue, people often felt frustrated, and many disputes ended up in court. The government spent millions of dollars on studies and endless discussions but couldn't seem to please anyone, much less devise an operating plan that satisfied the entire basin.

In 1994, a great controversy arose when the U.S. Army Corps of Engineers, the agency primarily responsible for managing the Missouri, published a study that had taken almost five years to complete. The Corps had not significantly revised its overall plan of operations for the Missouri since it was first drafted in 1960. The new proposal for how the river should be managed was not well received and has been shelved while the Corps works on revisions.

During the revision process last year, the Corps invited MRBA to compile a list of recommenda-

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tions to help the federal government manage the river more equitably. The June conference in North Dakota was part of an ongoing process to help MRBA's board of directors clarify goals and better understand the views of the people who live and work in the basin.

"Our overall objective was to use their comments as input for developing a message to take back to the Corps of Engineers," explained MRBA President Mike Jess.

Through a process that emphasized individual participation, the conference gave people an opportunity to meet with others, share their expertise, and offer creative solutions to problems that have troubled the basin for decades. The directors were there to listen and encouraged participants to do most of the talking.

"MRBA's job was to provide the right environment for productive discussions. We wanted to bring together people from up and down the basin who represented competing uses," Opper explained.

Participants were assigned to six task forces, which discussed ways to promote stability and growth in the following areas: recreation, navigation, water supply, habitat, river banks/lake shoreline integrity and flood control, and hydropower.

On the first day, each task force consisted of members who shared an interest in one of those areas. For example, people involved with navigation served on the navigation task force. The task forces brainstormed all day and suggested many ways to improve operations for the benefit of their assigned area.

On the second day, the assignments were shuffled so that each task force featured representatives from all interest areas. This format placed competing interests together where they could talk in a friendly setting, share information, understand each other better, and resolve some of their differences instead of merely fighting for their own causes.

These mixed task forces reviewed suggestions from the previous day, decided which proposals most of the participants could accept, and identified others which would cause more controversy.

Many participants said they learned a great deal by hearing the views of people who represented different interests. Others said they were surprised to realize how many of the task forces' proposals were basically acceptable to most people at the conference, especially after they understood why each suggestion had been made. For example, almost everyone expressed interest in improving the environment along the river.

"There seemed to be a green light, with a few caveats, for acquiring more fish and wildlife habitat within the Missouri River corridor," Opper noted. He said participants seemed in favor of acquiring land only from willing sellers, and making sure that such a project would not significantly diminish the tax base of counties along the rivers.

"The meeting was a very educational process. People understand each other's needs much more clearly now," said Opper.

The meeting also helped MRBA's directors understand the people of the basin.

For the past few weeks, the directors have been mulling over the 70-page report from the gathering in Bismarck. They met in late July and will meet again in September to discuss ideas proposed during the conference. After that, MRBA will mail a list of proposed recommendations to everyone who attended the conference.

The public is invited to participate in the process. People will have some time to offer further suggestions and comments before the directors compile their final recommendations, which MRBA will present to the Corps of Engineers and other federal agencies.

Jess said he expects the recommendations to be taken very seriously, because the Corps asked MRBA to develop the list, which will reflect the views of people who live in the basin.

Some of those suggestions will be put into practice, but it won't happen overnight. The process will take years and will be refined as it progresses.

"There will be a lot of ongoing work that will come out of this. It's up to MRBA to work cooperatively with the federal agencies to make sure those recommendations are implemented in an equitable way," said Opper.

Throughout the process, MRBA will continue to promote communication among the basin's residents, possibly by organizing other meetings like the one in Bismarck. During that event, several task forces requested that MRBA host more conferences, because two days was not enough time to explore the issues in depth, and because such meetings would allow people to become involved in the decisionmaking process.

Whether they host another conference or not, the directors said they were pleased with the one in North Dakota, which generated ideas, momentum, and enthusiasm.

"It seems to me that there's a feeling of hopefulness, in contrast to the confrontational atmosphere that's existed for years. There was a real sense of camaraderie. It was remarkable to see people enjoying each other's company and trying to work things out," said Opper.

Setting the tone

We must all hang together, or we will all hang separately

David Shorr, MRBA director from Missouri, established a cooperative atmosphere at the North Dakota conference, June 13-14, by asking participants to envision themselves caught up in the following scenario:

The clock has been rolled forward two decades, to the year 2016. Dave Sprynczynatyk and I are in our 30th and 26th years of negotiating how the river will be managed. I am 61 and Dave is 112.

The river has been run in the same way for 20 years, and at his retirement dinner, Dave is congratulating me on winning a war of attrition.

By the way, barge traffic hasn't increased, recreation hasn't increased, and the Corps has just released the preferred alternative, which calls for a spring rise and no water in the reservoirs in July and August, and navigation will be restricted to one foot draft to save the endangered channel catfish. The study cost $170 million. Nobody likes the preferred alternative.

An election has taken place, and a new third party, the Dempublitarians, has just taken over Congress and the Presidency. The Dempublitarians consist of a coalition of East Coast and West Coast interests. Their attitude is that the only thing the Midwest is good for is crossing. Their universal campaign mantra is that all taxes should go to the East and West coasts, and no development should occur in the Midwest. The South and eastern Midwest have been placated by careful distribution of NFL franchises.

We are on our own.

There is a proposal in the Dempublitarian Congress to eliminate all funding for Missouri River operations. No lakes, no channel.

Before you habitat folks get all excited, there is also a proposal to grant mineral rights for coal, sand and gravel and to create an all-terrain vehicle National Destruction Corridor throughout the basin. Where the valley has not been strip-mined, you are legally allowed to drive your monster truck.

We have one chance, President Joe Cool Camel, who was elected due to name recognition by our children. He had roots in the Midwest. Specifically, his grandparents are from Bismarck and Jefferson City, and his wife was born in Pierre, the only state capital without an interstate or four-lane highway.

Joe Cool Camel realizes that if we for once can agree on the river's operation, enough votes exist to keep it open. Contrary to his party's political posture, he will not use his line-item veto to block legislation we propose, as long as we're all in favor of it.

But this means we need to agree, or else the northern basin-southern basin bloc will be split. A deal must be realized, or the resource is gone.

One last chance is given MRBA to save the river and valley as we know it, or the rest of the nation is going to leave only enough water for us to drink.

We are given one day in Bismarck, North Dakota, to save the resource.

You have been assembled for that task. The only way you are going to do it is to positively win over the members of the basin. That means all interests must feel improved, or we will not have enough votes to stop the Dempublitarian East Coast/West Coast juggernaut.

Save the river. That's our goal.

Brainstorming

Conference generates suggestions for managing the Missouri

"Everyone wants the Missouri River to be managed in a reliable, predictable way," Jeff Fassett, MRBA director from Wyoming, commented after task forces summarized their ideas at the conference in North Dakota, June 13-14.

The conference encouraged people to find common ground, he said, and although there will always be some areas of disagreement, it's important to show unity as a basin.

Participants commended the Missouri River Basin Association for hosting the conference and fostering a spirit of cooperation among the basin's varied interest groups, and they asked MRBA to organize similar gatherings in the future.

Several task forces suggested that MRBA should play a larger role in managing the basin, perhaps by becoming an overall basin

authority with the power to set priorities and oversee the general management of the Missouri.

In any case, MRBA will continue to promote unity within the basin, perhaps by hosting other conferences, and it will follow up on what was discussed during the meeting in Bismarck.

During brainstorming sessions at the conference, participants came up with many ideas for MRBA and the state and federal governments to consider when planning management strategy for the Missouri River. Some of the proposals are controversial, but MRBA stresses that at this point, all of them are merely suggestions.

Here are some general ideas that were raised, followed by suggestions from the six task forces, listed in no order of preference:

- The Corps' Missouri River Division needs to stop changing commanders every couple of years or less.
- MRBA should encourage and coordinate the development of a basinwide economic development plan for each major use of the river.
- MRBA should study options for creating a new basin authority with greater responsibility.
- South Dakota needs to rejoin MRBA.
- MRBA should sponsor regular meetings of basin water users and people affected by water policy decisions (have more meetings like the Bismarck conference).
- Meetings similar to the Bismarck conference should be held state by state.

BANK AND SHORELINE INTEGRITY AND FLOOD CONTROL

Bank and Shoreline Protection

- Don't allow Corps to buy land and let it slough into the river.
- Acquire sloughing easements.
- Dredge and dump silt over the dams.
- Prevent delta formation.
- Encourage local shoreline zoning control.
- Provide high bank and levee protection where needed during high water.
- Support levee maintenance where appropriate.
- States and tribes need to prioritize where bank stabilization is most needed.
- No more channelization.
- Maintain steady flows until banks are stabilized.

Flood Control

- Connect the river to the floodplain in selected areas.
- Widen the riparian channel.
- Acquire floodplains for use for excess water storage and to provide recreation areas.
- Protect farmland.
- Place the highest priority on human needs (food, water, shelter, flood control).
- Update computer flow models.
- Share the pain during low water. (Low water is the best possible condition for flood control and bank protection, though.)
- Encourage better planning of winter and summer releses to minimize spring flooding.

Funding

- Bring in additional revenues from hydropower, user fees, and additional industrial development.
- Use hydropower revenues for flood control projects.
- Increase revenues by selling water, raising electricity rates, and increasing recreation fees.
- Have Congress appropriate funds for bank protection.
- Use flood control funds to pay for bank protection.

HABITAT

Land Acquisition

- Convert floodplains into habitat on a voluntary basis where easily convertible.
- Reconnect large tracts (1,000 to 2,000 acres) of floodplain to the river.
- Widen or re-establish some riparian corridors.
- Manage vegetation to increase habitat for rare and endangered species.
- Create and maintain high-elevation habitat for terns and plovers.

Bank Stabilization

- Relax structural bank control in selected reaches of the lower river.
- Need alternatives to new bank stabilization (sloughing easements, purchase-leaseback options) that address private property concerns.
- Balance bank stabilization with the need to build habitat.
- Determine the cumulative impacts of bank stabilization.

Water Flows

- Ensure adequate flows to meet the minimum needs of threatened and endangered species.
- Consider temperature and water quality benefits from multi-level releases from dams.
- Control water depletion throughout the basin, including the tributaries.
- Simulate natural hydrograph below Gavins Point and explore lower summer flows.

- Analyze impact of interior drainage or seepage resulting from a May-June rise.
- Monitor and improve water quality.
- Increase permanent pool levels.
- Stabilize lake levels.

Regulations

- Regulate types of developments allowed to be built in the floodplains.

Engineering

- Provide fish passages at Gavins Point and on some tributaries.

HYDROPOWER

Hydropower Production

- Optimize hydro-thermal generation to meet power demands in the most reliable and cost-effective manner.
- Install additional capacity.
- Improve generators.
- Add a turbine to the re-reg dam at Yellowtail to increase power generation and solve fish problems.

Timing of Hydropower Production

- Use hydropower for peaking capacity, if cost effective to do so.
- Improve timing of power generation to meet demand load.

Low Water Conditions

- Do not deplete the pools during low water.
- Do not maximize energy production during low water.
- Conserve the water head capacity when possible during low water to ensure peaking capacity.
- Monitor the impact of lower power production during low water on the regional grid.
- Do maintenance on power facilities during low water.
- Look for surplus power in the grid during low water.
- Develop renewable power sources (wind, photo-voltaics).
- Encourage energy conservation by power users.

High Water Conditions

- Do not spill water.
- Store all the water you can.
- Optimize storage capabilities and eliminate power plant by-pass.
- Increase firm power (add more generators if cost-effective).
- Sort out the revenue/financing issues associated with hydropower.
- Generate power when it's most valuable when possible.

Other Suggestions

- Raise the permanent pools.
- Do not depend upon hydropower to pay for all other uses of the river.

NAVIGATION

Predictability

- When there is enough water, provide predictable conditions, including an early spring opening, a full-length season, and no mid-year corrections.
- Provide a 10-foot-deep channel.
- Provide a nine-foot draft, either by increasing flows by 4,000 cfs or by dredging.

Research

- Study the effect of water-compelled rail rates.
- Increase the efficiency of terminal operators.
- Improve drought prediction capabilities.
- Consider research into barge design (creating shallow draft barges), dredging, and upper basin navigation opportunities.

Governance

- Consider establishing an unbiased basin authority.
- Emphasize health and safety first, then follow priorities and share the pain when there's not enough water.
- Streamline governmental regulatory constraints.
- Provide what is necessary to get return on investment.

Low Water Conditions

- Increase storage in reservoirs.
- In low water, provide a shortened navigation season with a full nine-foot draft.
- Reduce water releases in winter to save water.
- Improve structures and equipment to prepare for low water conditions.
- In low water, maximize the economic rather than the political benefits of the river.
- Reduce the least beneficial uses during low water.
- Create overflow storage capacity.
- Consider dredging instead of increasing flows during low water.
- Tax good times to support the bad times (following the unemployment insurance model).
- Compensate shippers and others for losses in low water.

High Water Conditions

- If there is too much water, consider one-time, out-of-basin transfer.
- No out-of-basin transfers.
- Pre-plan through better forecasting to avoid having too much water.
- Experi nent with different river engineering techniques to move water when there is too much of it.
- Address the height of bridges, docks, etc.

RECREATION

Recreation Plan

- Develop a long-term, basinwide recreation plan. MRBA should

monitor its progress and implementation.
- The plan should consider maintenance and safety of existing facilities and future recreation needs, as well as current and future economic values.
- The plan should include alternate (non-water sports) recreation, especially for times of low water.
- Involve the private sector in the recreation planning process.

Management-Governance
- The Corps should establish a high-grade GSA position to administer a recreation program.
- Make MRBA a managing body with authority.
- Advocate for a better recreation infrastructure which includes low water ramps (relocation of ramps), alternate access sites and improvements, better roads, fish hatcheries.

Low Water Conditions
- Provide recreational access to reservoirs through Corps maintenance on low water ramps and alternate access sites.
- Provide higher pools.
- Mitigate damages to exposed lands, fisheries, and hatcheries in low water.
- Develop low water plans for new facilities.
- Improve Corps' river flow and weather forecasting.

High Water Conditions
- Acquire floodplains for excess water storage.
- Protect recreational facilities with riprap and breakwaters.
- Develop high water plans for new facilities.
- Enforce water quality regulations.

Recreation Priority
- Give recreation equal priority with other project uses. Have MRBA seek congressional authority for this.

Recreation Funding
- Use revenues from mill levies on power plants for recreation development.
- Create other new funding sources.
- The Corps should provide investment incentives, such as long-term leases and land exchanges or sales.
- Use the revenues from sales or leases only for recreation projects.
- It needs to become easier for the private sector to create or mitigate riparian areas and wetlands.

WATER SUPPLY

Flows
- Increase winter flows, or maintain them at 12,000 cfs from Gavins Point.
- Maintain adequate flows (25,000 cfs from Gavins Point in the summer; 9,000 to 10,000 cfs in the winter) for cooling water for thermal power plants.
- Establish minimum flows to maintain water supply and quality.

Revenues/Fees
- Maintain the no-charge rule for consumptive use of water.
- Need consistent rules for charges for stored water from the main stem dams.
- Fund bank protection and shoreline maintenance through various user fees.

Low Water Conditions
- Maintain potable water to customers.
- Keep silt from water intakes.
- Use emergency water sources (wells), and implement water use restrictions.
- Share the pain.

High Water Conditions
- Protect plant/industrial facilities during floods.
- Sandbag critical buildings.
- Increase the height of the levees in certain areas.
- Prevent erosion problems and disturbance of burial grounds.
- Protect the integrity of dam structures.
- Share the pain.

Other Suggestions
- Recognize compatible out-of-stream uses.
- Develop irrigible lands.
- Develop more and better MRI systems.
- Allow for preferential power allocation to the tribes.
- Increase permanent pools.
- Maintain water quality.

Mediation

Facilitators enhance cooperative atmosphere at conference

by Susan Risland

A negotiating team helped devise an effective format, promoted communication and cooperation, and kept the discussions focused during the conference MRBA hosted in Bismarck, North Dakota, June 13-14.

"I can't think of much I would have changed about the process. The River Group is a very skilled group of planners," said Richard Opper, executive director of the Missouri River Basin Association.

The River Group is a consortium of people from the Missouri basin who are skilled in managing conflict, researching public issues, and facilitating the development of public policy.

For the past year, the facilitation team has been helping MRBA's board of directors reach agreement on issues that have divided the basin's states and tribes in the past. The North Dakota conference was one step in a long process to unite the people of the basin.

Opper said the River Group was instrumental in planning the conference. The team helped MRBA's directors clarify their objectives, devise an effective conference format, and write questions that would encourage participants to discuss various scenarios and perspectives.

"We hoped to bring the stakeholders together to have them talk to and listen to each other. When people are treated with respect and you create a process that allows them to speak and be heard, good things usually happen," said Gerald Mueller, one of the facilitators.

During the conference, the River Group moderated task force discussions. Opper said the facilitators did an excellent job of keeping the small groups on task both days. During the discussions, the negotiators improved communication among people who sometimes disagreed with or misunderstood each other. They encouraged task force members to participate instead of listening passively.

"It was interesting to see the contrast between the facilitators in the different rooms," commented MRBA President Mike Jess. Each task force developed its own dynamics, reflecting the personalities of its moderator and the people in the group, but the facilitators worked as a team to promote a general feeling of camaraderie and can-do optimism.

Jess also applauded the River Group's follow-up in preparing comprehensive summaries of suggestions that came out of the task force discussions. The group spent the first evening of the conference compiling a 30-page summary of ideas proposed that day. After the conference, the group compiled a second, 40-page report on work the task forces produced during the second day of the conference.

MRBA credits the River Group for helping make the conference a success, and with helping resolve some of the basin's differences during the past year.

"The directors seemed pleased with the conference, and the people who attended seemed pleased. People were saying this is a process that should go on," Mueller noted.

Basin residents invited to contact MRBA

The Missouri River Basin Association is always interested in hearing from people in the basin. The directors would particularly appreciate comments from those who attended the conference in North Dakota in June, or from anyone who has thoughts about the meeting and the consensus-building process.

MRBA President Mike Jess noted that the public is invited to the association's meetings, which usually include an opportunity for people to voice their comments. "We try to move around to various locations in the Missouri River basin," he added, so people in different areas can attend. MRBA's board of directors will meet in September to discuss the conference in North Dakota and the list of recommendations to be presented to the U.S. Army Corps of Engineers.

The association's newsletter, "The Missouri River Report," contains informative articles about some of the issues under discussion in the basin, along with updates on the activities of MRBA, the U.S. Corps of Engineers, and other organizations.

Address comments and requests for subscriptions or back issues to:

Richard Opper, Executive Director
Missouri River Basin Association
P.O. Box 301
Lewistown, MT 59457-0301
(406) 538-4469

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Associate Editor — Newsletter

MRBA OFFICERS:
PRESIDENT: Michael Jess, Director, Nebraska Dept. of Water Resources
VICE PRESIDENT: Bud Clinch, Director, Montana DNRC
SECRETARY: Richard Bad Moccasin, Mni Sose Tribal Water Rights Coalition
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Missouri River Basin Association
P.O. Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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P.O. BOX 301, LEWISTOWN, MONTANA 59457-0301 PHONE (406) 538-4469

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Basin's residents suggest water management changes
MRBA drafts list of recommendations for Corps

The Missouri River Basin Association's board of directors is compiling a list of recommendations for improving water management in the Missouri River basin.

Ultimately, the recommendations will be presented to the U.S. Army Corps of Engineers, probably next spring, after MRBA consults with interest groups in the basin. The recommendations will carry significant weight, because the list reflects the views of people who live in the basin.

For about seven years, the Corps has been working on a revision of its Master Manual, the overall operating plan for the Missouri River, but many of the agency's proposed changes have not been well received. In 1995, the Corps invited MRBA, as an organization representing the states and Indian tribes of the basin, to compile a list of recommendations to help the federal government manage the river more equitably.

Throughout 1996, MRBA has solicited information and opinions from various residents of the basin, particularly during a conference it hosted in Bismarck, North Dakota, last June. Government officials, Indian tribes, representatives from special-interest groups and the general public were all involved in the process.

Since June, MRBA's directors have met several times to discuss the large number of suggestions they have received. While compiling the list of proposals, the directors looked for workable, effective ideas that seemed acceptable to a large percentage of the basin's residents.

The project is part of MRBA's larger mission to encourage a spirit of cooperation within the basin, so the people who live here will have more influence over water policy decisions.

During 1997 and beyond, residents of the basin will continue to be involved as MRBA helps the Corps implement some or all of the proposed changes. MRBA will organize meetings and task forces, and it will work with Congress and other government officials to get projects approved, organized and funded. The process will take years and will be refined as it progresses.

The recommendations are intended to promote stability and growth in eight major areas: water supply, navigation, hydropower, fish and wildlife habitat, bank and shoreline integrity, flood control, recreation, and monitoring the river system.

Here is the list of recommendations MRBA will present to the Corps, along with italicized action steps that will help the basin accomplish those goals:

1. Water Supply

Those who use Missouri River water for municipal, industrial and agricultural purposes need sufficient water flows at intake structures to maintain water quantity and quality. Reservoir levels are key to maintaining access for many users in the upper basin. Adequate supplies of treated water for both rural and urban uses are a priority throughout the basin.

Water Supply Goal: Throughout the basin, promote measures that ensure the quantity, quality, reliability, and growth of the water supply for municipal, rural, industrial, and irrigation-agricultural uses, and for cooling electric power generators.

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Recommendations:

- Establish policies in the Master Manual to ensure adequate flows during winter and drought and to minimize the adverse effects of siltation.
  MRBA will pass this recommendation on to the Corps of Engineers.
- Where structural limitations restrict the ability to withdraw water from the river or a reservoir during flood or drought, support assistance to local or tribal governments to make needed improvements.
- Ensure that water supply systems continue to operate during floods.
  Next spring or summer, MRBA will convene a meeting of water supply officials and private interests to identify water withdrawal points that are prone to drought or flooding, along with structures that need improvements.
- Initiate discussions on policies regarding water quality discharge permits.
  The Environmental Protection Agency, Fish and Wildlife Service, and state and tribal water quality officials will be involved in this effort. State and tribal agencies will compile water quality standards, then meet to discuss their findings and decide whether to adopt uniform standards.
- Encourage the development of regional water supply systems.
  During its meetings, MRBA's board of directors will discuss individual project plans and try to reach consensus on them.
- Continue ongoing discussions of future depletions among states and tribes.
  MRBA's directors will continue to discuss the issue and make it the organization's next major focus after the Master Manual, basinwide planning activities are completed.

2. Navigation

The drought of the late 1980s and early 1990s severely affected Missouri River navigation, an industry of great importance to the lower basin. It had an adverse impact on the two things that affect tonnage shipped on the lower river: the cost of service and the reliability of that service. At times, flows from the Missouri River are critical to navigation on the Mississippi River.

Navigation Goal: Promote the stability, reliability and growth of navigation on the Missouri River system through water management, economic assistance and transportation planning.

Recommendations:

- Prepare a proposal for:
  1. improving the overall efficiency of tow boats and barges operating on the Missouri and Mississippi rivers.
  2. implementing structural, operational and maintenance measures, along with modifications to port facilities, which would improve support to navigation.
     This February, MRBA will organize a meeting of navigators, shippers, the U.S. Department of Transportation, and the Corps to develop a proposal. MRBA will convene appropriate groups to facilitate intermodality (better use of all forms of shipping — rail, barge, highway) in the basin.
- Research the feasibility of:
  1. operating the Missouri River to support flows on the Mississippi River at critical times.
  2. releasing water in a precise, predictable manner during the onset of drought.
     This February, MRBA will initiate meetings among navigators, shippers, and concerned upper basin representatives to work out a recommendation on these two points.
- When there is enough water, maintain a 9-foot channel which would provide predictable conditions, including an early spring opening, a full-length season, and no mid-year corrections.
- In low water conditions, determine whether to shorten the navigation season or reduce the service levels.
  MRBA will consult navigators to confirm whether this statement and the previous one are accurate. If the navigators agree with them, MRBA will pass the recommendation along to the Corps.
- Improve drought prediction capabilities.
  MRBA will sponsor an educational meeting, perhaps in combination with another meeting.

3. Hydropower

Much of the basin benefits from low-cost hydropower. Hydropower must continue to be a basin priority as long as its production is economically feasible and consistent with other mandates.

Hydropower Goal: Maintain or enhance the value and reliability of hydropower production at the lowest possible cost while balancing the need for 1) equitable distribution of power among tribes and states, and 2) consideration of all authorized project purposes.

Recommendations:

- When consistent with other project purposes, conserve the water head to avoid depleting pools and to ensure peaking capacity.

- When consistent with other project purposes, store all the water possible under high water conditions.
  Working with the Western Area Power Administration (WAPA), MRBA will send a letter to the Corps, urging the agency to operate the system in concordance with these first two recommendations.
- Encourage power users to conserve energy.
  Working with WAPA and the Corps, MRBA will use its newsletter to promote conservation, and it will send letters to large power users in the basin, urging them to conserve.
- Sort out the revenue financing issues associated with hydropower.
  MRBA will have WAPA, Midwest Power Consumers, and other groups give presentations at an MRBA meeting next April. The presentations will also discuss what underlying statutes apply to existing hydropower contracts, what the future of hydropower will be under the new energy law, retail marketing of power, and EPA's new ozone standards.
- Determine how depletions affect the system's hydropower benefits.
  MRBA will request that the Corps' Master Manual review will include an investigation of how depletions affect hydropower and other system benefits.
- Encourage improvements to turbines, which would increase their efficiency.
  MRBA will ask the Corps, WAPA and state officials to investigate whether improving turbine efficiency is economically feasible.

4. Habitat

The Missouri River is highly modified and controlled. It no longer functions as a natural river in terms of providing and maintaining high quality habitat for many native species of fish and wildlife. Some of these human-made changes are permanent (e.g., mainstem dams and reservoirs), and the intensive development of the river and its floodplain prevents the use of restoration methods that have worked elsewhere. Nevertheless, recovery of threatened and endangered species on the Missouri River, and preventing the further decline of other native river species, depends on restoring natural large river habitats.

Support has been expressed for various measures to improve the river system's ability to support native fish and wildlife, but the proposed return of unmanaged and unpredictable high spring flows was not well received. Habitat restoration along the mainstem could be accepted if those who do it are sensitive to the economic value and restoration potential of the project sites, and if landowners are compensated.

Habitat Goal: Enhance habitat systemwide by supporting programs that focus on species maintenance and recovery. These programs should modify the physical structures along the river, restore the river channel and floodplain habitats, and improve water quality.

Recommendations:

- Create and restore habitat in specific areas to support native fish and wildlife.
- Identify and pursue off-channel opportunities to create and improve habitat for the least tern and piping plover.
- Assess the economic viability and habitat restoration potential of lands along the river.
- Enhance habitat in selected tributary sites, and study the feasibility of a fish passage at Gavins Point Dam.
- Ensure adequate flows to meet the minimum needs of threatened and endangered species.
- Consider temperature and water quality benefits from multi-level releases from dams.
  For the first four recommendations, MRBA will encourage the Fish and Wildlife Service, U.S. Geological Survey and the Corps to compile a comprehensive list of all habitat restoration efforts in the basin. Then, next spring, MRBA will call a meeting of habitat specialists from states, tribes and federal agencies to develop and implement a balanced, acceptable habitat restoration plan. The Missouri River Natural Resources Committee, local governments and landowners will also be involved in the process.
  For the fifth recommendation, MRBA will involve the same group of people to determine the minimum needs of specific threatened and endangered species and to decide what minimum flows to recommend.
  For the sixth recommendation, MRBA will involve the same group of people, along with WAPA, to evaluate which dams, if any, might be suited to multi-level releases.
- Purchase habitat only from willing sellers.
  Working with the Corps, FWS, and the Natural Resources Conservation Service, MRBA will encourage federal agencies to be consistent in evaluating land values and payments in lieu of taxes.
- Promote a substantial increase in funds for creating, restoring and enhancing habitat within the system.
  MRBA will work with Congress to continue and expand existing programs and create new ones as needed.

5. Bank & Shoreline Integrity

Throughout the basin, unprotected shorelines erode in part because of the operation of the system to meet various demands placed upon it. Erosion and sedimentation have affected all river uses.

Bank & Shoreline Integrity Goal: Throughout the system, maintain the integrity of certain riverbanks and lake shorelines to protect and enhance current and future uses.

Recommendations:

- Establish a priority list of riverbank reaches most in need of stabilizing.
- When there's excess water in the reservoirs to evacuate, identify operational and structural measures to support higher winter flows while reducing the damage that ice dams and ice formation cause to Corps' structures.
- Identify areas where acquiring sloughing easements or land from willing sellers would be appropriate, and seek funding to acquire them.
- Combine habitat creation activities with efforts to protect streambanks and to prevent floodway sediment buildup.
- Encourage local shoreline control.
- Support levee maintenance and repair where appropriate.
- Protect cultural resources from erosion damage.
- Study delta formation in the headwaters of the reservoirs and develop some recommendations to address the problems.

  For all recommendations, MRBA will assemble a committee of local government agencies and landowners to develop a priority list of banks in need of stabilizing. Several representatives from the Missouri River Natural Resources Committee or the Fish and Wildlife Service will be included to determine the effects of stabilizing the banks in question. The Corps will also be involved. The project will be completed sometime next summer.

6. Flood Control

Improving flood control is truly a basinwide goal. All members agree that spring discharges from all projects should be carefully managed to limit the potential for flooding to the greatest possible extent. Below the confluence with the Platte River, and throughout much of the basin, higher flows cause higher groundwater, which prevents adequate drainage of prime farmland. This "invisible flood" can prevent crop plantings or, in the best-case scenario, reduce crop yields if a late crop can be planted at all.

Flood Control Goal: Maintain the high priority of flood control within the basin, and reduce the damage caused by future floods.

Recommendations:

- Discourage development in the Missouri River floodplain.
- Enlarge the floodway by acquiring selected flood-prone properties from willing sellers. This will allow the landowner to redirect farming operations and resources. The land can then be used to store excess water, to provide habitat and recreation areas, and to connect the river to the floodplain.
- Appraise flood-damaged properties for their natural resource or flood control values, and for their value as flood-damaged agricultural lands, and then pay willing sellers the greater amount.

  For the second and third recommendations, MRBA will involve the states, tribes, local governments, Fish and Wildlife Service, U.S. Geological Survey, the Corps and other federal agencies, the Missouri River Natural Resources Committee, and landowners. The group will identify priority areas to acquire, estimate costs, and identify existing programs to help pay for acquisitions. Using this information, MRBA will work with Congress to provide further funding.
- Design new critical facilities and modify those which already exist so they're capable of operating even during a flood.

  MRBA will ask the Corps to identify critical facilities at risk for flood damages, along with their current level of flood protection. The Federal Emergency Management Agency and the other groups working on the first recommendation will be involved in this project.
- Improve road and bridge design to minimize flood damages.

  MRBA will organize a meeting of representatives from state highway departments and departments of natural resources for this project.
- Make levee repairs promptly where repairs are appropriate to protect public safety or are otherwise justified.

  MRBA will urge the Corps to identify and repa[illegible] the levees most in need of repair to protect public safety. FEMA and NRCS will also be involved.
- Expend available funds to repair levees and evacuate flood-prone properties where appropriate.

  MRBA will identify available funds.

7. Recreation

Recreation is of great importance to everyone in the basin. In the upper basin, tourism and recreational use of the reservoirs have become a large part of the economy. In the lower basin, recreational opportunities are limited now, but the area has a large population, and recreation could be developed into an important contribution to their economy.

Recreation Goal: Promote the stability and growth of recreational use of the river and reservoirs through water management, economic assistance, and recreational planning.

Recommendations:

- Develop and implement a basinwide recreation plan that considers both on- and off-channel recreation opportunities, the effects low water would have on recreation, and existing assessments such as the corridor studies done in Nebraska and Iowa.
- Evaluate existing reservoir recreational facilities. Determine which need improved access, and whether relocation or structural modifications would be feasible to reduce the impacts of fluctuating reservoir levels.

  MRBA will assemble a task force of some of the people who attended MRBA's conference in Bismarck last summer. The task force will also include the Corps, Fish and Wildlife Service, Park Service, other federal agencies, state recreation groups, state water quality officials and state park directors. The group will assess existing recreation facilities and begin to develop a recreation plan this winter.
- Seek revenues to finance modifications listed above and/or to compensate for losses the recreation industry suffers during drought.

  MRBA will work with the basin's congressional delegates to arrange funding through Congress.
- Assess how poor or declining water quality affects recreation and devise strategies to mitigate the problem.
- Design new recreation facilities to withstand both high and low water.
- Research the feasibility of:
  1. More stable and higher permanent pools.
  2. Releasing water in a more conservative manner during drought.

  MRBA will work with the MRNRC and state water quality personnel to address the three preceding recommendations. The group's suggestions will be distributed to people who are building new recreation facilities.
- Evaluate the potential benefits of additional fish hatcheries in the mainstem reservoirs.

  MRBA will ask the Corps, Fish and Wildlife Service, and MRNRC to help with these evaluations. MRBA will work with Congress to authorize additional hatcheries as needed.
- Assess how fluctuating reservoir levels affect fisheries and recreation.

8. Monitoring

To make informed decisions about how the sytem will operate under a revised Master Manual, water managers need data that accurately characterizes the existing physical and biological conditions of the river system. It's particularly important to measure the effects of 1) efforts to restore fish and wildlife habitat, and 2) operational modifications to benefit endangered species. Monitoring activities must be focused to provide specific information that experts say is essential. To avoid duplication and minimize costs, any monitoring effort must recognize and incorporate existing data collection efforts.

Monitoring Goal: Develop a monitoring program to characterize the existing system and to quantify how changes are affecting the system.

Recommendations:

- Develop a monitoring program and ask Congress to approve its implementation.

  MRBA will have the Missouri River Natural Resources Committee design the program, then will work with Congress to fund the plan.

9. Other Suggestions

- MRBA should study options for creating a new basin authority with greater responsibility than the association already has.

  During their board meetings, MRBA's directors will discuss possible structures for a new organization.
- MRBA needs to investigate various funding mechanisms to support its recommendations.

  MRBA's executive director will investigate funding options.
- Develop a prior notification process for proposed water use projects.

  This recommendation will be discussed at MRBA meetings.
- Develop an interactive computer program to use as an educational tool for water decisionmakers and the general public.

STATE REPORTS

IOWA

Governor Terry Branstad

In the November elections, Republicans gained a slight majority in both houses of the Iowa Legislature. The state also has a Republican governor, and four of its five U.S. representatives are Republicans.

This year, the GOP won a majority in the Iowa Senate, which is now comprised of 29 Republicans and 21 Democrats. Last year, the count was 23 Republicans and 27 Democrats.

The state House of Representatives includes 54 Republicans and 46 Democrats. While still in the minority, Democrats gained nine seats in the House from last year's 37.

Governor Terry E. Branstad (R) is now in the middle of a fourth, four-year term and has recently said he is leaving his options open on whether he will run for a fifth term.

There was one change among Iowa's five members of the U.S. House of Representatives. Republican incumbents Jim Leach, Jim Nussle, Tom Latham and Greg Ganske all won their races, but Leonard Boswell (D) won the Fifth Congressional District, which was previously held by Jim Ross Lightfoot (R).

Lightfoot had left the House to run against incumbent Tom Harkin (D) for the Senate. Harkin won the election and again joins Sen. Charles Grassley (R), whose office was not up for election this year.

Iowa had one issue on the ballot this year, a constitutional amendment to prevent money in the Fish and Wildlife Trust Fund from being used for purposes other than fish and wildlife. The amendment was approved by an overwhelming majority of 89 percent.

KANSAS

Governor Bill Graves

The Republicans lost a few seats in the state House of Representatives during the November elections but still hold a strong majority in Kansas. The governor and all six of the state's congressional representatives are Republicans, and the party also controls both houses of the state Legislature.

Unlike much of the country, Kansas had an unusually high voter turnout this year, probably because two new U.S. senators were up for election. One replaced retiring Sen. Nancy Kassebaum, and a second filled the remainder of Sen. Bob Dole's unexpired term. Dole had resigned his Senate seat to run for president.

In addition, of the state's four members of the U.S. House of Representatives, only one incumbent was up for re-election. Two other incumbents were running for Senate seats, and a third was retiring.

Kansas possibly lost more seniority in this election than did any other state.

Once again, Republicans swept all six federal seats.

In the U.S. Senate, freshman Rep. Sam Brownback left the House and took the two remaining years of Senator Dole's unexpired term. Pat Roberts, longtime member of the House of Representatives and formerly Chairman of the House Agriculture Committee, also left the House to capture Sen. Kassebaum's seat.

In the U.S. House, Rep. Todd Tiahrt (R), the lone incumbent running for re-election, was victorious. Kansas' other three members of the House will all be freshmen, including former Olympian and political newcomer Jim Ryun, as well as Vince Snowbarger and Jerry Moran, former members of the Kansas House and Senate, respectively.

In state legislative races, the entire Senate and House of Representatives were up for election. Republicans continue to hold significant majorities in both chambers. In the Senate, the Republican advantage remains unchanged with 27 Republicans and 13 Democrats. In the House, the Republicans lost four seats but maintained a sizeable majority of 77 Republicans to 48 Democrats.

In other news, the weather in Kansas was brutally dry last winter and spring, which caused the worst wheat harvest since the 1950s. However, the summer was wet and cool, providing good conditions for row crops, except where certain areas were damaged by hail.

In interstate water matters, the second phase of "Kansas v. Colorado" litigation on the Arkansas River is in full swing again. The lawsuit alleges that people in Colorado violated an interstate water compact by developing wells that used groundwater upon which Kansas had some claim. In this second phase of the lawsuit, damages and future remedies for Colorado's violations of the compact are being litigated.

In another water-rights dispute, Nebraska and Kansas are continuing mediation discussions regarding the Republican River Compact. The states are seeking to resolve Kansas' allegations that Nebraska is over-using the basin's water supply.

MISSOURI

Governor Mel Carnahan

The Democratic Party did very well in Missouri during the November elections, holding onto the governor's office and maintaining a

majority in the U.S. House of Representatives and both houses of the state Legislature.

Governor Mel Carnahan easily won re-election to his second four-year term, defeating Republican State Auditor Margaret Kelly, who will continue for the remaining two years of her term as her party's only major elected official in Missouri.

Governor Carnahan's wide margin of victory helped sweep other Democratic candidates into office, including Lieutenant Governor Roger Wilson, Secretary of State Bekki Cook, Attorney General Jeremiah (Jay) Nixon, and State Treasurer Bob Holden.

Two members of Governor Carnahan's Cabinet have resigned, and their replacements will be named after the legislative sessions begins in January. The governor's administration has strongly supported education, and there is an active strategic planning program working to sharpen the focus of state agencies.

Missouri's congressional delegation changed, yet stayed much the same. Retiring U.S. Rep. Mel Hancock was replaced by fellow Republican Roy Blunt, who had earlier served as secretary of state. Twenty-year congressional veteran Democrat Harold Volkmer, of northeastern Missouri, was defeated by Republican Ken Hulshof.

In southeastern Missouri, JoAnn Emerson won the congressional seat of her late husband, Republican Bill Emerson, who died in office earlier in the year. In an unusual twist, Mrs. Emerson ran as a Republican to fill her late husband's unexpired term, and as an Independent for a full two-year term in the seat. She won both elections by a comfortable margin, leaving the Missouri congressional delegation with five Democrats, three Republicans, and one Independent.

After the November election, U.S. Rep. Richard Gephardt was re-elected Minority Leader in the House for his third two-year term.

Missouri's U.S. senators, Christopher "Kit" Bond and John Ahscroft, both Republicans and both ex-governors, were not up for re-election.

In the state Legislature, many of the faces changed, but the political makeup stayed essentially the same, with the Democrats firmly in control. There are 19 Democrats and 15 Republicans in the state Senate, and 88 Democrats and 75 Republicans in the state House.

Missouri voters passed several issues placed on the ballot by initiative petition, including Proposition 8, which extended the state's one-tenth cent Parks and Soils Sales Tax for another 10 years. The tax is divided equally between the state park system and soil erosion prevention, both programs administered by the Department of Natural Resources.

An initiative to create a fund for replacement of state buildings was passed, but a proposed "Rainy Day Fund" to help deal with fiscal emergencies was not approved.

MONTANA

Governor Marc Racicot

The Republican Party strengthened its position in Montana during the November elections, retaining majorities in both houses of the state Legislature and gaining the state's only seat in the U.S. House of Representatives.

The state's most popular governor ever, Marc Racicot (R), was elected to a second term, receiving about 80 percent of the popular vote.

Judy Martz (R) replaced Lieutenant Governor Dennis Rehberg (R), who stepped down to run for the U.S. Senate. The death of Democratic gubernatorial candidate Chet Blaylock just two weeks before the election dampened the celebration of Racicot's landslide victory.

In a closely contested race, Rick Hill (R) defeated Bill Yellowtail (D) to capture Montana's lone seat in the U.S. House of Representatives. Pat Williams (D) had held the office for nine terms but chose not to run for re-election this year. Hill is a Helena businessman and former state Republican Party chairman. Yellowtail is a longtime Montana legislator who resigned as the EPA's Region VIII director to seek the House seat.

The Democratic Party held on in the race for U.S. Senate, where incumbent Max Baucus (D) won his bid for a fourth term, defeating Lieutenant Governor Dennis Rehberg (R) in a hard-fought battle.

Initiative 122, the Montana Clean Water and Public Health Protection Act of 1996, was defeated. This citizen-driven initiative was hotly debated throughout Montana for more than a year.

I-122 would have disallowed the use of "mixing zones," areas downstream of mining discharges into ground water or surface water, where mine waste is diluted with cleaner water. Water-quality standards are usually not applied within a mixing zone, but below it, after the mine waste has been diluted.

The initiative also called for a tougher arsenic standard, which was lowered during the previous legislative session. Third, the initiative would have required new or expanding mining operations to meet existing water quality standards or to remove 80 percent of certain heavy metals in mine waste, whichever is more strict.

Advocates argued that the initiative was needed to prevent contamination of the state's waters by

toxins, carcinogens, and other heavy metals in mine waste.

Opponents argued that I-122 was ambiguous and that it would have imposed far stricter requirements on the mining industry than on any other water user group in Montana. They added that available technology could not measure and treat mine waste effectively enough to meet such stringent water quality standards. They also maintained that passage of the initiative would cost the state thousands of jobs.

NEBRASKA

Governor E. Benjamin Nelson

In the November elections, there were some upsets in Nebraska, where the Republicans won a U.S. Senate seat and tightened their hold on the state Legislature.

Despite a significant lead in the Gallup polls in early September, Governor Ben Nelson was defeated in his attempt to win the U.S. Senate seat being vacated by James Exon. Nelson's lead eroded substantially, especially during the last weeks of the campaign. Republican Chuck Hagel won the race by some 14 percent.

In the state Legislature, which is officially a non-partisan body, the Republicans increased their majority standing. Half of the members come up for election every two years. In all, five new members will join the 49-member Unicameral Legislature when it convenes Jan. 8.

Many people were surprised when Supreme Court Justice David Lamphier did not survive the retention vote all judges must face every six years.

There were about half a dozen initiative issues on the ballot. Some were approved while others were defeated. Despite a great deal of media advertising, voters overwhelmingly voted down Proposition 411, which called for "quality education" as a Constitutional requirement; and Proposition 412, which would have reduced property taxes.

NORTH DAKOTA

Governor Edward T. Schafer

In the November elections, the Republican Party held onto its strong position in North Dakota politics.

Governor Edward Schafer (R) and U.S. Rep. Earl Pomeroy (D) were re-elected. No U.S. senators were up for election in North Dakota this year.

The Republicans maintained their majority in the state Senate, where the party gained one seat, and in the state House of Representatives, although the Democrats gained three seats there. In the Senate, there are now 30 Republicans and 19 Democrats. In the House, there are 72 Republicans and 25 Democrats.

In other news, two important water resource bills will be introduced during the Fifty-fifth Legislative Assembly of North Dakota, which starts in January.

One bill would have the state engineer construct an outlet from Devils Lake to the Sheyenne River if the lake fills to 1445 feet mean sea level. To finance construction of the outlet, the bill would appropriate $25 million from the general fund and $75 million from federal sources.

The second bill would provide a critically needed, comprehensive, statewide water development program to be developed and implemented by the State Water Commission. It would serve the long-term water resource needs of the state and its people. In addition, it would protect the state's current usage of, and the state's claim to, its proper share of Missouri River water. The bill reallocates 20 percent of the oil extraction tax development fund to the resources trust fund. The bill would also finance the program by appropriating $41,669,450 from the general fund.

WYOMING

Governor Jim Geringer

The Republican party won big in Wyoming in the November elections this year. Republicans hold all three of the state's congressional seats, and the party also maintains a strong majority in the state Legislature.

Alan Simpson's retirement kicked off a heated race for his seat in the U.S. Senate. Republican Mike Enzi edged out Democrat Kathy Karpan to win with 53 percent of the vote.

Enzi, a businessman from Gillette, had served in the Wyoming Legislature for a number of years and had once been the mayor of Gillette. Karpan was Wyoming's secretary of state for two terms and narrowly lost to Governor Jim Geringer two years ago.

Wyoming's other senator is Craig Thomas (R), who has served two years in the Senate after the retirement of Malcolm Wallop.

Barbara Cubin (R) will be returning to Washington as Wyoming's lone U.S. Representative. She was challenged by Democrat Pete Maxfield, a law professor from Laramie who is currently serving in the Wyoming state Senate.

The Democrats did pick up a couple of seats in the House, with the makeup now 43 Republicans and 17 Democrats. The Senate is also Republican-controlled, with 21 Republicans and nine Democrats.

The Wyoming Legislature will begin its regular 40-day session on Jan. 14.

Election results: Missouri basin

Republicans fared well in the Missouri basin during the November elections. In the presidential race, Bob Dole (R) won six of the basin's eight states, while Bill Clinton (D) carried only Iowa and Missouri. Of the eight governors in the basin, three were re-elected, maintaining a status quo of six Republicans and two Democrats.

A total of nine Republicans and seven Democrats still represent the basin in the U.S. Senate, although there were some changes in individual states. In Kansas, Sam Brownback (R) and Pat Roberts (R) replaced Bob Dole (R) and Nancy Kassebaum (R). In Nebraska, Chuck Hagel (R) replaced James Exon (D). In South Dakota, Tim Johnson (D) replaced Larry Pressler (R). In Wyoming, Mike Enzie (R) replaced Alan Simpson (R).

The basin is sending two more Republicans to the U.S. House of Representatives, bringing the total from these eight states to 17 Republicans and seven Democrats.

Republicans continue to control the House, Senate and governor's offices in Iowa, Kansas, Montana, North Dakota and Wyoming. Democrats control the Senate, House and governor's office in Missouri.

In the following summary of election results, bold type indicates positions that were up for election this year. Underlining indicates candidates who replaced an incumbent. In the state Senate and Houses, the total number of Democrats and Republicans is indicated, along with how many seats the Republicans gained or lost in the November election. NC indicates no change in each party's total number.

State/ President	Governor	U.S. Senate	U.S. House of Representatives	State Senate	State House
Iowa Clinton	Terry Branstad (R)	Charles Grassley (R) **Tom Harkin (D)**	**Jim Leach (R)** **Jim Nussle (R)** **Gregg Ganske (R)** **Tom Latham (R)** **Leonard Boswell (D)**	Dem. 21 Rep. 29 (+6)	Dem. 46 Rep. 54 (-9)
Kansas Dole	Bill Graves (R)	**Sam Brownback (R)** **Pat Roberts (R)**	**Todd Tiahrt (R)** **Jim Ryun (R)** **Vince Snowbarger (R)** **Jerry Moran (R)**	Dem. 13 Rep. 27 (NC)	Dem. 48 Rep. 77 (-4)
Missouri Clinton	**Mel Carnahan (D)**	John Ashcroft (R) Kit Bond (R)	**William Clay (D)** **James Talent (R)** **Richard Gephardt (D)** **Ike Skelton (D)** **Karen McCarthy (D)** **Pat Danner (D)** **Roy Blunt (R)** **JoAnn Emerson (I)** **Kenny Hulsof (R)**	Dem. 19 Rep. 15 (NC)	Dem. 88 Rep. 75 (-1)
Montana Dole	**Marc Racicot (R)**	**Max Baucus (D)** Conrad Burns (R)	**Rick Hill (R)**	Dem. 16 Rep. 34 (+3)	Dem. 35 Rep. 65 (-2)
Nebraska Dole	Ben Nelson (D)	Robert Kerry (D) **Chuck Hagel (R)**	**Doug Bereuter (R)** **Jon Christensen (R)** **Bill Barrett (R)**	Nonpartisan/Unicameral	
N. Dakota Dole	**Ed Schafer (R)**	Byron Dorgon (D) Kent Conrad (D)	**Earl Pomeroy (D)**	Dem. 19 Rep. 30 (+1)	Dem. 26 Rep. 72 (-3)
S. Dakota Dole	William Janklow (R)	Tom Daschle (D) **Tim Johnson (D)**	**John Thune (R)**	Dem. 22 Rep. 13 (-3)	Dem. 23 Rep. 47 (+1)
Wyoming Dole	Jim Geringer (R)	Craig Thomas (R) **Mike Enzie (R)**	**Barbara Cubin (R)**	Dem. 9 Rep. 21 (+1)	Dem. 18 Rep. 42 (-4)

Iowa governor appoints new MRBA representative

Longtime MRBA representative Jim Brown has been assigned to new duties within his state government and will be replaced by Kevin Szcodronski, from the Iowa Department of Natural Resources.

Formerly the state water coordinator with the Iowa Department of Natural Resources, Brown is now Executive Officer of the Environmental Protection Division of the Iowa Department of Natural Resources. The promotion is undoubtedly a result of and recognition of Brown's talents and ability to understand and resolve complex challenges.

These are the same skills he applied to the Missouri River Basin Association during his 11 years as Iowa's representative. Time and again, Brown provided direction to the association and was an inspiration to the entire organization. He served two tenures as president of the MRBA board of directors, most recently in 1994-1995.

Brown was also active in the Upper Mississippi River Basin Association, having served recently as its president as well.

Brown's new assignment in Iowa will take him away from his work on both the Missouri and Mississippi rivers.

Iowa's Governor Branstad has named Kevin Szcodronski to replace Jim Brown as the state's representative to MRBA. Szcodronski now serves as Executive Officer 2 with the Iowa Department of Natural Resources. He has a wealth of knowledge about and experience with big river systems and is, like his predecessor, well-qualified to represent Iowa's interests in the Missouri River Basin Association.

MRBA STAFF:

Richard H. Opper, Executive Director
Susan Risland, Associate Editor — Newsletter

MRBA OFFICERS:

PRESIDENT: Michael Jess, Director, Nebraska Dept. of Water Resources
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James Kircher, U.S. Geological Survey
Nick Stas, Western Area Power Administration
Max Louden, U.S. DOT — Maritime Administration
Warren Hill, National Park Service

Missouri River Basin Association

P.O. Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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DECEMBER 1997

Second basinwide conference

Participants suggest revisions to draft planning document

by Susan Risland

About 110 people participated in the Missouri River Basin Association's second basinwide planning conference last month in Kansas City, Missouri. During two days of intense discussions, participants produced a list of ways to improve the planning document that MRBA has been compiling for about two years.

Within the next few months, MRBA's board of directors will finish work on the document and begin working with Congress, the U.S. Army Corps of Engineers, and other government agencies to implement its recommendations. The plan is the result of a consensus process that MRBA initiated in 1995 at the request of the Corps. Because the document reflects the views of various interests throughout the basin, it carries significant weight.

"We are finally beginning to think like a basin, rather than merely a collection of separate and competing interests," noted Richard Opper, Executive Director of MRBA, during his opening remarks at the Kansas City conference.

"No one has ever tried to see what we as a basin can actually agree on. And I for one was amazed at how much there is that we can all enthusiastically endorse. We still have to address some tough issues like drought management and futures depletions, and I assure you we will address those things. But for now, thanks to you, we have been able to find general agreement on a compilation of ideas and activities that will likely be the most significant planning tool the basin has had since the Pick-Sloan Plan."

Many participants at the Kansas City conference had also attended MRBA's first conference in Bismarck, North Dakota, last year. Throughout the spring of this year, MRBA hosted task force meetings to refine some of the ideas that had been proposed earlier. Other residents of the basin have communicated with MRBA during the shaping of the document, making it a broad-based plan of action that addresses the needs of many people.

A spirit of cooperation and mutual support was more than evident at the Kansas City conference, where representatives of competing interests tried to find ways to help each other get what they needed. As Diane Brandt, a recreation representative from Montana, noted:

"In the '80s, I was a Corps basher. In the '90s, it's dinner and drinks and working together with the Corps. In 1991, a (Corps) Division colonel stated

that we need to establish a mutual trust between the public and the Corps. I believe that it's happening. At that same meeting, someone named Opper said, 'We need to seek a common ground for a work agenda.' And here we are!

"In 1991, I was testifying against the navigation industry. In 1996 at Bismarck, I was sitting at the Missouri River with the navigation boys, discovering we have common needs and goals. After this meeting, I believe that me and the navigation boys might go to Congress in 1998 and promote development in the Missouri River basin."

During the first day of the conference, each task force consisted of people who shared the same interest (navigation, recreation, fish and wildlife/habitat, agriculture and bank stabilization, or water supply/hydropower). The groups discussed the planning document and suggested ways to improve it for the benefit of their particular interests.

On the second day, the task forces featured representatives from various interests, who discussed sources of possible controversy in the document, ways to resolve those difficulties, and ways to implement strategies outlined in the planning document.

Although they suggested many ideas for improving the document, participants generally agreed that the basin should support the document as a whole.

They also stressed the need to remember that issues in the basin are interrelated, and actions taken for the benefit of one interest can affect many other people. Participants wanted more clearly defined roles for entities such as MRBA, the Corps, and the various committees and other interests within the basin. They also asked for various studies to provide solid data upon which to base decisions. The need for money to fund projects and the question of how to apportion revenues from hydropower were noted as weighty issues that affect many aspects of water management along the Missouri.

The importance of improved communication, especially between the Corps and the citizens of the basin, was noted repeatedly. Participants proposed that MRBA host regular basinwide conferences to continue the consensus process. It was repeatedly suggested that small committees should be formed, perhaps along the lines of the task force groups at the conference, to work with MRBA and other entities as details of the plan are decided over the next year or so. These committees might also represent those interests in communicating with the Corps and various agencies. Some task forces requested that the Corps assign a contact person for that specific interest group. In short, people said they wanted to be more involved in the communication and decisionmaking process.

Most participants at the conference had taken time away from work and families and come to Kansas City at their own expense. They said they believed the meeting was significant, a great deal was accomplished, and the people of the basin need to continue working with MRBA, the Corps, and other organizations to follow up on what has already been accomplished.

This is the draft planning document submitted to participants at the Kansas City conference:

Process Summary

The following document summarizes the recommendations developed by the Missouri River Basin Association after an extensive planning effort over the past two years that utilized input from citizens throughout the basin.

The Missouri River Basin Association (MRBA) is a coalition of the basin's states and Indian tribes. The tribes are represented in the association by the Executive Director of the Mni Sose Tribal Water Rights Coalition. The states participate through a governor-appointed representative from each of the fol-

lowing states: Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, and Wyoming.

In 1994, the Corps published the results of its extended review of the Master Water Control Manual for the Missouri River (Master Manual). In the document, the Corps recommended several changes in the way it managed the river. Some of the changes were controversial, and the document failed to achieve public approval.

Late that year, the Corps asked the Missouri River Basin Association directors to develop elements of a Missouri River operating plan that would meet with broader approval. In response, the directors of the association began an extensive planning effort in 1995. They hired facilitators from The River Group to help them design a process that would lead to a consensus on at least certain elements of a river operating plan.

The MRBA directors agreed on several issues early in the process. One point of agreement was that the basin needed to have in place an extensive environmental monitoring program. The association asked the Missouri River Natural Resources Committee to develop a draft monitoring program for the basin, and that document has been drafted and is available for comment. The directors also agreed that the Corps and other agencies need to involve the basin's Indian tribes to a greater degree in any future planning activities. Finally, the directors agreed that the spring rise (an increase in springtime reservoir releases to simulate the flows that existed before the dams were built) proposed by the Corps is not the best method for addressing habitat concerns.

The MRBA directors organized a basinwide conference in Bismarck, North Dakota, in June 1996 to solicit feedback from people who would be affected by any future plan for the Missouri River. Approximately 120 people attended the conference, and the participants produced nearly 80 pages of recommendations for MRBA's consideration.

The MRBA Directors spent several months reviewing results of the Bismarck conference. Then, the MRBA Executive Director met with ad hoc committees representing the following 5 interests in the river: Navigation, Recreation, Fish and Wildlife Concerns, Bank Stabilization and Agriculture, and Municipal and Industrial Water Supply. The MRBA directors felt that the hydropower recommendations that came from the June 1997 Bismarck Conference did not need elaboration, so there was no follow-up meeting with the hydropower committee.

Finally, the MRBA Directors worked through the committee recommendations and came up with the document that follows:

Navigation

The highest priority for the navigation industry, which includes barge and terminal operators and shippers, is to receive long term reliable flows in the river channel. In order to plan and schedule business activities for the upcoming navigation season, river users need to know with as much lead time as possible how long the season will be and how deep the channel will be. The lack of reliable flows is one reason shipping tonnage is so far below anticipated levels, and building more reliability into the flows will help the industry enhance the economy of the region.

Navigation representatives want to enhance shipping on the Missouri River. However, they do not want to do so at the expense of fish and wildlife habitat. Indeed, the members of the Navigation Committee support measures to enhance fish and wildlife habitat that are supported by affected landowners and do not damage the integrity of the navigation channel.

There is generally enough water in the system to support a full navigation season with full flows. Unfortunately, there have been and will be times when drought limits the amount of water available for navigation, recreation, fish and wildlife, and other uses of the river. Listed below are some recommendations for the Corps that will help build reliability into the system, give the river users as much business planning lead time as possible, minimize conflicts between navigation and other uses of the river, and enhance the region's economic base.

Proposed Recommendations:

When low flows are going to adversely affect navigation, the Corps of Engineers should meet with affected parties to determine whether to shorten the season or reduce flows, and by how much.

When there is enough water to meet the needs of all uses, the Corps should commit as early as possible to flows that would support a 9 foot draft, and the opening date for the navigation season should be March 7 at Sioux City and March 16 at the river's mouth. The Missouri River Basin Association recognizes that the amount of available water depends upon the snowpack, and that snowpack levels are impossible to accurately determine early in the year. However, MRBA recom-

mends that the Corps should announce the navigation season length and supporting flows no later than March 1 of every year, and earlier if possible. Once the Corps has announced an opening date, it should stick to that date unless it's precluded by extraordinary events. If there is enough water and suitable weather to open the season early, the U.S. Coast Guard should help open the river to navigation.

The Corps, in partnership with navigators and fish and wildlife officials, should initiate an "avoid and minimize" program on the lower Missouri River. The purpose of the program would be to help the navigation industry operate with minimal impact on the river's fish and wildlife resources and habitat. The program should include mooring cells that allow barge operators to tie up boats in the water at terminals rather than against the banks, and other such activities. The Mississippi River has an avoid and minimize program in place that could serve as a model for the Missouri. The MRBA and the Corps should organize a committee representing navigation, fish and wildlife, and agricultural interests, that will work with the Corps to develop suggestions for an avoid and minimize program similar to the one on the Mississippi River. The same committee could advise the Corps on structural changes to the system that would provide environmental as well as navigation benefits.

The Corps should conduct its O&M activities on the navigation channel to provide environmental benefits and the economic returns that come with enhanced wildlife habitat in the river corridor. The Corps could use notched dikes, wing dike modifications and other engineering techniques to protect and enhance in-channel aquatic habitat. It should not do this at the expense of flood protection for private property along the river.

The Corps' budget contains a line item expense for maintenance of the Missouri River navigation channel. In reality, this expense also covers the cost of maintaining the bank stabilization project on the lower Missouri River (authorized by the Missouri River Bank Stabilization and Navigation Act). Bank stabilization projects provide millions of dollars of benefits to the lower basin in addition to navigation, and these benefits need to be figured into the equation when Operation & Maintenance (O&M) expenses on the lower Missouri River are calculated. Therefore the Missouri River Basin Association recommends that in the Corps' line item budget, O&M expenses for maintenance of the navigation channel be separated from maintenance of the bank stabilization structures. This change reflects reality and is an adjustment to the characterization of expenses, not necessarily a change in the overall budget.

To enhance safety and to prevent groundings, the Corps should work with the U.S. Coast Guard to mark the navigation channel with buoys in places where channel location is difficult to determine. The Corps should also repair and improve the structures that stabilize the river. Many of the river's dikes, wing-dams, and closing structures are in disrepair. The Corps should use existing O&M money to improve structures while also improving the river's wildlife habitat.

Congress and the Corps should change their insistence that economic benefits be judged on their national rather than regional impacts. An evaluation of national impacts is appropriate for authorizing large scale expenditures of federal money. However, relatively small amounts of money are being spent on the on the Missouri River, where the Corps is merely managing an existing reservoir system and navigation channel. This is a regional issue, and decisions should be based upon their impact on the regional economy.

As part of its operation and maintenance practices, the Corps should promptly remove rip rap that has fallen into the river at terminal ports and stabilize the banks there. This will improve the operating efficiency of the terminals along the lower river.

Congress should appropriate funds to support capital improvements, research, and other technological enhancements to navigation on the Missouri River. For example, Congress could fund research in to more efficient barge and tow boat designs that draw less water.

The Corps of Engineers should assign a navigation contact person within the Missouri River Region office in Omaha.

Recreation

The entire basin would benefit from enhanced recreational opportunities. Stable reservoir levels genrally enhance the reservoir recreation industry. Improved access to the river system through trails and acquisition programs would provide more recreational opportunities for non impounded stretches of the river system. These and other activities listed below would help transform the river into a magnet that would draw people to the area.

Proposed Recommendations:

The Corps should establish the policy of unbalancing reservoir levels in drought to maintain a good spawn of sports fish in at least 1 of the big 3 reservoirs every year. The Corps should meet with the Missouri River Basin Association representatives during droughts to develop a schedule for unbalancing the big 3 reservoirs. It should also develop procedures for minimizing the impact to reservoirs that will have declining pool levels during low water inflow years.

Congress should increase the Corps' O&M budget for recreation and direct the Corps to end its policy of no new recreation development on Corps properties in the Missouri River basin.

The Corps should explore alternatives for improving O&M of existing recreational facilities and should encourage and remove impediments to such things as public/private partnerships that wish to construct new recreational facilities.

Congress should appropriate funds to improve public access to the river in the lower basin. This may require acquisition of lands, continued development of a trail system in the river corridor, and the construction of additional boat ramps. Congress should also appropriate funds to improve public access to and facilities at the reservoirs in the upper basin. Recreationists need better road access to the reservoirs and the river; more boat ramps at all the reservoirs; low water access ramps; and additional campsites, fish cleaning stations and toilets at all the reservoirs.

The Corps and other state and federal agencies should continue studying the effect of fluctuating reservoir levels on sport fisheries and recreation. The Corps should work with a committee of fish and game representatives from the basin's states on this study.

Congress should appropriate funds to establish a recreation trust fund for the Missouri River that would fund new recreation facilities on the river system.

Congress should authorize the Corps to establish a revolving fund from recreation fees the Corps collects from its facilities on the river system. The Corps should use these funds exclusively to augment its recreation budget.

The Corps and other state and federal agencies should standardize measurements of recreation use and benefits. To accomplish this, the Corps should convene a meeting with state and tribal representatives to compare measurements used by various states and tribes.

Congress should appropriate disaster relief funds for those who suffer economic loss during droughts. The funds shall be used for such things as directly compensating marina operators, extending boat ramps, and relocating recreational facilities which are currently on sites particularly vulnerable to droughts. Congress should direct appropriate agencies to establish for the basin, standards for drought assistance relief.

Congress should appropriate funds to construct and maintain fish hatcheries for sport and native species. The states should determine where such hatcheries may be appropriate.

Private citizens and corporations should work with state historic preservation officials, the National Park Service, the Corps, and Congress to develop cultural and historical interpretive centers that celebrate the Missouri River's culture and history.

Federal and private lending institutions should provide insurance, low interest loans, or underwriting so that private industry can finance new recreation developments.

Fish and Wildlife

The Missouri River Basin Association has developed the following list of recommendations to help recover the threatened and endangered species in the basin, prevent future listings of additional threatened or endangered species in the basin, and enhance the overall condition of the riverine ecosystem. The suggestions rely primarily upon land acquisition and engineering to accomplish basin-wide fish and wildlife objectives. The land acquisition projects will be from willing sellers only, and all the suggestions below will be implemented in a way that will protect nearby private property rights and productive farmland. The recommendations below will also achieve these objectives without destroying the navigation channel or other economic uses of the river system. Indeed, the basin's fish and wildlife representatives support such activities as navigation and bank stabilization as long as those activities are compatible with the conservation, restoration and enhancement of fish and wildlife resources.

Proposed Recommendations:

State and federal agencies, in conjunction with private landowners, should develop and implement a strategic plan for habitat acquisition and restoration that prioritizes efforts as follows: a) prevents extinc-

tion of threatened and endangered species; b) prevents further decline of fish and wildlife that are at risk; and c) ensures that native Missouri River fish and wildlife resources are sustained in perpetuity.

Congress should reauthorize and extend the authorization period for the Missouri River Fish and Wildlife Mitigation Program. Congress should increase the targeted acreage and the authorized funding on a permanent basis for the program. Congress should also direct the Corps to prioritize this program in its yearly budget.

State and federal agencies should acquire a network of public lands distributed along the lower Missouri River, and should restore or enhance those lands to improve fish and wildlife habitat, recreational values, and flood storage. These agencies should target acquisition to lands that are flood prone or that are poorly drained, and ensure restoration (e.g., chute restoration, levee removal) does not harm or increase risk to adjacent private property. Lands will be acquired from willing sellers only, and the new owners will protect for a period of time affected levee districts and local governments from revenue losses associated with conversion to public ownership.

The Fish and Wildlife Service should clarify the objectives of its wildlife restoration programs. It should determine a rough percentage of the floodplain that needs to be acquired to help recover the basin's threatened or endangered species. And it should estimate how much of what types of land should be acquired (sandbar habitat, backwaters, chutes, etc.).

The Corps should facilitate the transfer of successful habitat improvement strategies between its division and district offices.

The Corps should seek opportunities to restore or simulate natural river processes to improve habitat such as high elevation sandbars and cottonwood bottomland forests.

The Corps should lower or notch bank stabilization structures, increase in-channel sand bars, and restore water to chutes and backwaters. The Corps and other federal and state agencies will undertake a study to determine the most flood-prone and otherwise suitable areas within the Missouri River floodplain to acquire and the best engineering practices to achieve specific fish and wildlife habitat objectives for each designated location. Congress will direct and fund the Corps and others to do what is needed to implement the results of this study. The same committee used to advise the Corps on the avoid and minimize program could advise the Corps on structural changes.

The state and federal agencies with acquisition or easement programs will coordinate with one another to avoid confusing potential participants in their programs.

The Corps and other federal and state agencies should acquire and develop more off-channel wildlife habitat.

Congress should appropriate funds to establish an environmental trust fund for the Missouri River.

The Corps should enhance main channel border habitat (the area between the navigation channel and the high bank) by providing slow moving shallow water where possible, and increasing shallow water habitat behind point bars and in dike fields in selected areas below Ponca, Nebraska.

Where possible, the Corps should implement multi-level water releases from the dams to provide suitable water temperatures for native fish to spawn. These multi-level releases are most feasible for Fort Peck and Fort Randall dams. The Corps should also investigate the feasibility of such releases from Gavins Point Dam.

The Corps should study the feasibility of constructing fish passages around some of the Missouri River dams. Where appropriate, the Corps should construct and operate such passages.

Agriculture and Bank Stabilization

The Missouri River floodplain is one of the most productive agricultural valleys in the world, and the Missouri River Basin Association considers farming to be the highest and best use of the vast majority of the floodplain. Some of the recommendations below are designed to protect these valuable farmlands in the Missouri River floodplain.

Bank stabilization helps protect existing and future uses of the floodplain including farming. It also helps protect the cultural resources of the river system. Unfortunately, bank stabilization can also damage the hydrologic and ecological functions of the river system. To minimize these conflicts, other recommendations below are designed to stabilize sections of the river banks while improving habitat where possible.

The Missouri River Basin Association recommends that communities develop and enforce zoning regulations that will minimize urban encroachment on the floodplain.

Definitions:

- *Channelization*: Pinning the river down to a defined, usually armored channel that prevents the river from meandering.

- *Bank Stabilization*: Protecting through rock, vegetation, or other means, the high banks of the river. The main river channel can meander between the high banks.
- *High Banks*: The terraces caused by the river in the alluvial (water-borne) deposits that blanket the valley floor.
- *Floodway*: The area between the high banks.

Proposed Recommendations:

The Corps should maintain levees and stabilize banks to protect productive farmland in the basin. Other flood-prone properties should also be protected or evacuated to prevent continued flooding.

The Corps should determine the specific effect each change to its Master Manual will have on agriculture.

The Corps should convene a meeting of local bank stabilization groups to determine high priority, primarily agricultural areas to protect.

Protection of productive farmland and other uses of the floodplain is important enough to justify bank stabilization activities, particularly if these efforts also provide environmental benefits. Therefore, Congress should direct the Corps to include bank stabilization into presentation of the system's operation and maintenance budget.

The Corps should provide high bank protection for the identified high priority areas in the river reaches between the reservoirs. The Corps can use the same committee representing navigation, fish and wildlife, and agricultural interests to help the Corps determine the best engineering practices to achieve both high bank protection and habitat improvements. In some cases it may be appropriate for the Corps to purchase from landowners the right to allow some lands to slough into the river.

The Corps should also provide high bank protection in the Recreational River stretch between Yankton, SD and Ponca, NE. In exchange, the affected landowners will voluntarily grant easements for a wildlife corridor between the high banks in these areas. Again, sloughing easements may be appropriate for some areas in this reach of the river.

The Corps should undertake a study to determine how much sediment in the individual reservoirs comes from a) the river's banks, b) tributaries, and c) bed degradation. Such a study would help the Corps determine where it should focus its erosion control efforts. Also, the Corps should investigate the feasibility of preventing further bed degradation below Ponca, Nebraska to decrease the amount of water needed to fill the channel.

Water Supply

Several million people rely on the Missouri River to provide their drinking water supplies. In addition, the Missouri provides water for irrigation, thermal power plants, and a variety of other industrial needs. For these reasons, water supply is a high priority for the people of the Missouri basin. The following recommendations are designed to protect the ample supply of municipal and industrial water in the basin.

Proposed Recommendations:

Water suppliers should be encouraged to improve the efficiency of their water intakes and capture systems. This could help ensure adequate water supplies at lower flows.

To support municipal and industrial uses of the river, the Corps should maintain adequate reservoir releases to meet various downstream targets.

The Missouri River Basin Association should develop a prior notification process for proposed significant diversions of water from the system.

The Corps and other state and federal agencies should study the effect of low water on water quality.

Flood Control

Flood control is an important project purpose of the Missouri River dams and bank stabilization projects. Obviously, when the river rises, many low lying homes, businesses, and facilities are at risk of flooding. The recommendations below will help agencies continue to provide adequate flood protection for the basin and avoid future flood damages.

Federal agencies such as the Federal Emergency Management Agency should encourage evacuation of the floodplains and acquire and relocate particularly flood-prone homes, businesses, and facili-

ties where appropriate. Those flood-prone properties that are not evacuated should be better protected by strengthening the federal and private levee system. The Federal Emergency Management Agency should vigorously enforce the National Flood Insurance Program criteria to help minimize future flood damages.

The Corps' bank stabilization activities should protect existing uses of the floodplain, but local zoning should be strictly enforced to prevent encroachment of residential dwellings and thus minimize future flood damages.

Federal agencies such as the National Weather Service should be encouraged to improve their weather forecasting and flood flow capabilities. Economic Development Plan:

Economic Development is in the best interest of everyone in the basin. The types of industry the Missouri River, a significant but largely untapped resource, can help promote include tourism and recreation, value-added agriculture, and industries that may take advantage of the river's navigation potential. By developing the river's potential, the basin's states and Indian tribes can begin using the river as a magnet to draw people and economic benefits to the basin.

The Missouri River basin's states and Indian tribes should prepare an economic development plan that would focus on ways to capitalize on the Missouri River's existing and untapped environmental, recreational, agricultural, and industrial resources. To design and develop the plan: The states and tribes should create an ongoing economic development committee to seek ways to promote the environmental, recreational, agricultural and industrial resources of the basin. This committee should oversee the development and implementation of the economic development plan.

The plan should include ways to promote tourism and recreation. It should develop strategies on how to take advantage of the upcoming celebration of Lewis and Clark's travels up the Missouri River, promote the basin's cultural and historical resources, and work with state and federal agencies to identify and promote wildlife habitat areas along the river.

The plan should include ideas to improve the efficiency of navigation on the Missouri River; develop an interstate barge agreement among interested states; encourage new markets for western grain, coal and other products; and promote navigation as a way to attract industries which are compatible with other uses of the river.

Congress should consider providing financial support to the states and tribes to develop such a plan for the Missouri River basin.

Hydropower

Hydropower produced a significant amount of revenue from the basin. It may play an even more important role in the future as deregulation of the power industry encourages the production of more cheap, clean power.

Proposed Recommendations:

The Corps, the Bureau of Reclamation, WAPA, and other appropriate agencies should sort out the revenue/financing issues associated with hydropower in a way that can be understood by the states and the public.

WAPA should allow for preference power allocation to be made to the basin's Indian tribes.

Where cost effective to do so, partnerships should be developed to help improve the efficiency of existing turbines--especially during low pool levels in the reservoirs--and to add additional capacity to the system.

The Corps should improve the timing of power generation to meet demand load without harming other uses of the river system such as fish and wildlife, recreation, or navigation.

The Corps, working with Western Area Power Administration (WAPA), should use hydropower for peaking capacity, if cost effective to do so.

Power production and marketing authorities should develop renewable power sources in addition to hydropower to augment power supplies and should encourage energy conservation by users.

The Corps and WAPA should monitor the impact on the regional grid of lower power production during low water conditions.

Kansas City Conference Generates Recommendations

The Kansas City conference produced more than 30 pages of suggestions for revising the planning document. Some of those ideas are summarized here:

NAVIGATION

"Reliability" is a key word for navigation. Navigators feel that management plans are not always followed, which has caused some navigators to become skeptical of the entire water management process. There's need for a more specific operational mission statement and objectives, which may significantly change strategies for implementing the new plan.

Flows should be set at levels that are reasonable and fair for navigation and for other interests. Navigators noted the importance of considering the needs of recreation, conservation, agriculture, and others in the basin. When making decisions about water management, the Corps should consider the fact that changes in Missouri River operations affect national and regional economies.

RECREATION

The question of how high a priority to assign to recreation is difficult, but recreation should be given some priority. The Corps should give recreation meaningful consideration when it makes decisions about funding and resource allocation.

Changing the minimum pool could benefit recreation but would create conflict. It should be noted that, while flood control needs are based on operational pool levels, recreational needs are based on minimum pool levels. The bottom line is economics. Business people need certainty. For recreation, a minimum pool level gives certainty. For navigation, certainty means being able to count on a set navigation season.

The cost-share requirement for new recreation areas and facilities should be eliminated. There should be better access all along the river.

A long-term, basinwide recreation plan would benefit the entire basin. Recreation in the lower basin is not yet well established but should be encouraged; it will depend on restoration of the riverfront. Recreation interests want to present a united front and are trying to address the concerns and needs of recreation in the lower basin.

FISH AND WILDLIFE/HABITAT

Emphasize the need for good water quality. Wherever possible, the natural environment should be restored or simulated. Analyze the benefits and drawbacks of fish hatcheries before including them in the plan. Fish passages should be limited to the area above Gavins Point Dam to prevent exotic species from invading the upper basin. A mitigation program for the upper basin might be needed in addition to the program in the lower basin. The planning document could tell the Corps to release flows to trigger spawning without adversely impacting other users, but studies should be done first; sufficient data is not yet available.

Restoration and land acquisition need to be addressed from a broad, mainstem perspective, not piecemeal. There's need for a strategic plan, possibly overseen by MRBA, and the plan should be developed by July 1 to take advantage of recently proposed legislation that would fund restoration projects. It's important to acquire only appropriate land offered by willing sellers. Land acquisitions cannot be allowed to affect neighbors adversely. Decisions should be made in association with landowners. A standardized payment system is needed. Other related revenue issues need to be resolved. A trust fund or General Fund appropriation might be advisable.

AGRICULTURE, FLOOD CONTROL, AND BANK STABILIZATION

Erosion in the upper basin needs to be reduced. Discussions about bank stabilization should include mitigation.

Recommend reasonable zoning and floodplain regulations to prevent inappropriate urban encroachment on the floodplain and to protect the high banks. Bank stabilization is important for protecting farms and uses of the floodplain, and it can benefit the environment; therefore, it should be included in the Corps' O&M budget for the Missouri.

The flood control measures that protected Winnipeg, Canada, during this year's floods should be studied and perhaps emulated.

The Corps should ensure that water storage in the reservoirs reaches the base of the flood control pool or lower by March 1 annually. Levees should be raised to protect existing farmlands and municipalities against 100-year floods. Channel stabilization devices should be repaired and maintained to prevent

channel siltation and consequent flooding. The relationship between sedimentation, deltas, lake levels, and agriculture should be studied.

WATER SUPPLY AND HYDROPOWER

It's important to manage the water equitably and to avoid extreme water levels. Decisions regarding water levels should be made with flexibility and common sense.

Water suppliers, including municipal water works, should develop plans to ensure the adequacy of water intake and capture systems. Maintaining adequate reservoir releases to meet water supply targets downstream is the highest water supply priority. It's also important for those who operate water intakes to be aware of river operating stages and the conditions of the river at the intakes. Perhaps they should lower their water intakes. Government agencies and the tribes should develop a plan of study to achieve a safe water supply.

Perhaps some hydropower revenue should be reallocated from the federal treasury to projects in the basin. If this can be done without raising electricity rates, perhaps Indian tribes along the mainstem should be given special consideration.

GENERAL SUGGESTIONS

The basin is moving in the right direction, just not moving fast enough. Projects should be started now. Data collection is an overarching concern. Data collection and regional economic analysis need to be consistent throughout the basin and across interest areas. The basin's Indian tribes need to be included more in the dialogue.

To remedy water level conflicts: develop better predictive tools, improve modeling, improve monitoring of snowpack and runoff, and recognize that long term climatic changes do exist and are useful indicators.

The basin should not let a lack of money pose a hurdle to planning efforts. If the timing is right and the people of the basin are speaking with one voice, the funding will be there. Establish a fund (federal or from within the basin) to help people when they're asked to make sacrifices for the greater good.

The anniversary of the Lewis and Clark Expedition, coming up in a few years, should be used to call attention to what's happening in the Missouri Basin today. The people involved in the consensus process need to emphasize a cooperative, positive attitude.

Participants in the Kansas City conference should accept personal responsibility to share the planning document with other individuals and interest groups at home. The people of the basin, particularly those who attended the Kansas City conference, need to keep in touch with MRBA, the Corps, and other entities to express their opinions and report on what's happening at home.

A basinwide approach will be more successful if there are some benefits to everyone. Throughout the process, it's important to balance the interests of all groups.

South Dakota rejoins MRBA

Nettie Myers, Secretary of the South Dakota Department of Environment and Natural Resources, announced in November that South Dakota will once again be a full member of the Missouri River Basin Association.

South Dakota abruptly dropped its membership to the association in August, 1995. Although the state often sent representatives to MRBA meetings and continued to contribute to the association's planning efforts, it had no formal vote in decisions made by the MRBA Directors.

South Dakota's membership in the association was re-established when Myers presented MRBA with a check to cover its association dues. She presented the check and made the surprise announcement at the beginning of the MRBA-sponsored basinwide conference in Kansas City last November.

David Shorr retires from MRBA and Missouri DNR

David Shorr, longtime director of the Missouri Department of Natural Resources, announced last month that he will be retiring from the position on December 31.

Shorr was appointed to head the Missouri DNR in 1992 and has been a strong advocate ever since for environmental protection issues in his state. Shorr has also served as Missouri's representative to the Missouri River Basin Association since 1992. Effective January 1, Shorr will be heading the Jefferson City office of Lathrop and Gage, a Kansas City-based law firm. Shorr's replacement as head of the Missouri DNR and representative to the MRBA has not yet been named, although Missouri Governor Mel Carnahan is expected to make the announcement soon.

MRBA elects new officers

At its November meeting, the board of directors of the Missouri River Basin Association elected a new slate of officers. The new officers, who will begin their tenure on January 1, are:

PRESIDENT:	Bud Clinch, Montana
VICE PRESIDENT:	David Shorr, Missouri
SECRETARY:	Richard Bad Moccasin, Mni Sose Tribal Water Rights Coaliton
TREASURER:	Jeff Fassett, Wyoming

Bud Clinch replaces Mike Jess from Nebraska, who served as the association's president for the past two years. Bud Clinch served for the last two years as the association's vice president. Richard Bad Moccasin and Jeff Fassett have served as MRBA's secretary and treasurer, respectively, for the past several years. David Shorr was elected before his announced retirement from the Missouri Department of Natural Resources. Since he will no longer be Missouri's reprentative to the association, the MRBA directors will be electing a replacement as the vice president of its board.

Information Available from the Corps

For up-to-date information on what's happening in the Missouri River Basin, visit the website of the U.S. Army Corps of Engineers at
http://www.mrd.usac.army.mil

To hear a voice recording or to receive a fax that contains information on current conditions in the basin, call
402-697-2678
The information at this number is updated daily by 10 a.m., Central Standard Time.

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Associate Editor–Newsletter

MRBA OFFICERS:
PRESIDENT: Michael Jess, Director, Nebraska Department of Water Resources
VICE PRESIDENT: Bud Clinch, Director, Montana DNRC
SECRETARY: Richard Bad Moccasin, Mni Sose Tribal Water Rights Coalition
TREASURER: Jeff Fassett, Wyoming State Engineer

OTHER STATE DIRECTORS:
Dave Sprynczynatyk, North Dakota State Engineer
David Pope, Chief Engineer, Kansas Division of Water Resources
David Shorr, Director, Missouri Department of Natural Resources
Kevin Szcodronski, Iowa Department of Natural Resources
Nettie Myers, Secretary, South Dakota Department of Natural Resources

FEDERAL REPRESENTATIVES:
Larry Cieslik, Corps of Engineers
Jim Wedeward, ,Bureau of Reclamation
Keith Beartusk, Bureau of Indian Affairs
Gary Frazer, U.S. Fish and Wildlife Service
Ayn Schmit, U.S. Environmental Protection Agency
Joe Cothern, U.S. Environmental Protection Agency
James Kircher, U.S. Geological Survey
Nick Stas, Western Area Power Administration
Gordon Angell, U.S. Department of Transportation—Maritime Administration
National Park Service

Missouri River Basin Association

P.O. Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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SEPTEMBER 2000

Controversy arises over endangered species

By Susan Risland

The protection of threatened and endangered species came to the forefront in the review of Missouri River management policy in July, after the U.S. Fish and Wildlife Service (FWS) recommended implementing two measures that have been unpopular with many of the basin's residents.

In a Draft Biological Opinion delivered to the U.S. Army Corps of Engineers, the FWS advocated a spring rise (also known as a spring pulse) and a reduction in summer flows. Studies indicate that both measures would likely benefit the basin's fish and wildlife but could be detrimental for navigators, farmers, power producers and consumers, and other people who live and work near the river.

The FWS also called for the measures included in MRBA's recent management plans for the Missouri River, including the creation of habitat, increased monitoring of conditions along the river, unbalanced intra-system regulation, and the use of adaptive management to improve the status of the basin's fish and wildlife. The FWS has indicated its belief that the Endangered Species Act gives the Corps the authority to help the FWS implement these proposals.

Although controversy has already arisen over the Draft Biological Opinion, Al Sapa with the FWS office in Bismarck, North Dakota, urged people to reserve judgment on the 300-page report until they have a chance to read it. The FWS and the Corps are still revising the document and expect to release it to the public in early October.

Sapa emphasized that the Draft Biological Opinion is a work in progress, and there will be ample time for public review and comment before any of its recommendations are implemented. The document will probably be posted on a FWS Internet site, and an executive summary will also be available.

He noted that the recommendations would require people to adjust to some changes in the way the Missouri River is managed, but he said, "These proposals aren't Earth-shattering." He added that something will need to be done to help the basin's threatened and endangered species no matter what management plan is ultimately adopted for the river.

According to Sapa, the reduction of summer flows would go into effect only about 65 percent of the time, primarily during years when the river was neither unusually high nor low. Under this strategy, water would sometimes be released into the river to support navigation for two short periods during the year instead of the single long period dictated by the guidelines that presently govern the way the river is managed.

The second proposal, a spring rise, would involve the release of water at a specific season each year to raise the river, mimicking one of the Missouri's natural high-water stages. This would help fish and wildlife reproduce, but it would also submerge certain lowlands along the river corridor, reduce the system's ability to alleviate floods, and reduce the amount of water held in the reservoirs for navigation and other uses later in the year. Sapa said that the spring rise would not be employed in years when a natural spring flood was occurring, and any spring rise would be kept to a moderate level that would not exceed what the river is already reaching in some years.

Both measures have been discussed at length during the past few years as the Missouri River Basin Association (MRBA), the Corps of Engineers, the FWS, and other organizations met with citizens of the basin to consider revisions to the Missouri River Master Manual, the document that dictates how the river system is to be managed. At the request of the Corps of Engineers, MRBA has been working with the basin's numerous interest groups since the mid-1990s to reach consensus on ways to improve the Master Manual. Because many residents oppose a spring rise and reduced summer flows, MRBA did not include those measures in the list of recommendations it submitted to the

Corps last November. Instead, the basin association concentrated on drought flow management and environmental recommendations, including actions designed to improve conditions for endangered species.

In its recommendations MRBA emphasized the need for:

- more time to work with the owners of low-lying property, who might be willing to establish wetland easements or sell the land to public entities so that habitat could be re-established there;
- an expansion of the Missouri River Fish and Wildlife Mitigation Program, to be implemented by the Corps of Engineers;
- increased monitoring to obtain more information about the river system; and
- basinwide discussions hosted by the Recovery Committee.

This spring and summer, the FWS consulted with MRBA, the Corps, and other entities as it compiled its own document, a Draft Biological Opinion, which was presented to the Corps early this month. Under the Endangered Species Act, the FWS was required to prepare a Biological Opinion on whether the Corps' current management strategy for the Missouri would jeopardize the interior least tern, the piping plover, and the pallid sturgeon, which have been listed as threatened and endangered under the Endangered Species Act. By law, the welfare of these species must be taken into consideration as the Corps continues its review of the Master Manual.

In a letter sent to the FWS in June (*see full text below*), MRBA urged the agency to state specific, measurable goals that would help the basin's fish and wildlife, but to avoid telling the Corps exactly how to achieve those goals. MRBA felt that overly specific flow recommendations would not allow the Corps enough flexibility to accommodate the many competing needs and fluctuating conditions in the river basin.

Others apparently agreed. In a letter sent to the FWS in June, Congressman Doug Bereuter of Nebraska challenged several assertions that had been made by American Rivers, an environmental advocacy group that supports a spring rise/split season alternative for the Missouri River. American Rivers had said that the FWS has a mandate "which includes providing the Corps with specific science-based flow recommendations."

Bereuter countered that no such mandate exists. "In fact," he said, "dictating flows would prevent the Corps of Engineers from applying the kind of flexibility everyone agrees is needed to recover the basin's species. It would preclude the need for a 'Recovery Committee.' And such a recommendation should never come before the basin has had the opportunity to implement a major monitoring program for the river."

Bereuter said specific flow recommendations would undermine the unprecedented cooperative efforts that have taken place during the past few years to improve conditions for the basin's threatened and endangered species. He noted that there is already widespread agreement on the need to experiment with modified water releases from Fort Peck Dam, expand the Missouri River Fish and Wildlife Mitigation Program to acquire and enhance habitat, establish a recovery committee, and implement a comprehensive monitoring program.

In July, controversy erupted after the FWS outlined the main elements of the Draft Biological Opinion it was preparing to deliver to the Corps (*see full text below*). Instead of including only "performance-based" recommendations that would define goals without telling the Corps exactly how to achieve them, the document included some recommendations that prescribed specific flow levels and other details that the FWS said ought to be incorporated into the Master Manual.

Senator Christopher ("Kit") Bond and Senator John Ashcroft of Missouri sent a letter to the Corps expressing "outrage over the hijacking of the Missouri River Master Manual" and calling for clarification of "what role the states and the public are playing, if any, in the formulation of new policy recommendations over the last several months."

Noting that the federal government had stepped back to allow more state and local discussion of the Master Manual during the past six years, the senators said, "We have done so in agreement that this should be a locally developed, not a Washington-decreed approach. However, we can no longer be patient because that process which we supported has clearly been hijacked." They added, "Regrettably, it appears we are back where we started when we sent a bipartisan letter to the President on February 27, 1995, signed by 28 Senators objecting to this approach."

Their letter said, "If this were not in writing, it would hardly be believable that a handful of distant principals could conceivably cobble together such a prescriptive suggestion for changing the lives of a region's people without their intensive consultation and involvement. If the purpose of this process was to engender division, mistrust, and contempt for the Endangered Species Act and the distant people who administer it, then success is at hand."

Bond and Ashcroft predicted that the FWS proposals would cause the navigation industry to collapse and would increase the risk of floods that would destroy lives and property. Protesting the prescriptive elements of the proposals, the senators said, "A basin-led recovery committee should draft the recovery agenda, not read it after the ink dries. Clearly, before there is a recovery plan, there should be a recovery committee."

Later in July, the Corps responded to the FWS letter, saying that the recommendations would be incorporated into the general framework of the Master Manual Review, which will continue into next year (*see full text below*). The review process features numerous opportunities for public comment and scrutiny of any proposed changes to the Master Manual. Some elements of the FWS proposal will also be included in the Corps' draft Annual Operating Plan (AOP) for 2000-2001, which will be available for public comment this fall. The Corps stressed the importance of continuing to involve the basin's stakeholders in decisions that affect the management of the Missouri. At a minimum, the Corps said, discussions should include MRBA, the basin's Indian tribes, the Missouri River Natural Resources Committee, and other federal agencies.

According to Sapa of the FWS, the Draft Biological Opinion is only a starting point, a set of recommendations that will be discussed extensively and revised before being incorporated into the Master Manual, and the FWS expects that ultimately an adaptive management approach will be adopted. This would allow enough flexibility for the Corps to adjust its management of the Missouri over time.

Sapa defended the FWS decision to include prescriptive recommendations in the Draft Biological Opinion, saying that 10 years ago the FWS published a Biological Opinion which featured only performance-based recommendations. That approach was not sufficiently effective to protect the basin's terns and plovers, he said, and therefore the FWS chose to be more specific in its recommendations this time.

However, Richard Opper, Executive Director of MRBA, said that he does not recall the FWS discussing the 1990 Draft Biological Opinion during the MRBA-led effort to develop a new river operating plan. "It would have been better for the FWS to have called attention to the document during, rather than after, the five-year planning process we just completed," Opper said. "Since the Fish and Wildlife Service never focused on the document in any of our meetings, conferences, or negotiations, most people either did not know the document existed or assumed it was no longer relevant."

This issue of the Missouri River Report features the full text of three letters that were exchanged in June and July regarding the Fish and Wildlife Service's Draft Biological Opinion and the continuing review of Missouri River management policy.

MRBA asks Fish and Wildlife Service to maintain flexibility

On June 14 the Missouri River Basin Association sent the following letter to Jamie Rappaport Clark, Director of the U.S. Fish and Wildlife Service.

Dear Ms. Clark:

Thank you for attending the June 9 Missouri River Basin Association meeting in Minneapolis. We appreciate the fact that you took the time from your busy schedule to meet with us, and we are happy to have had the opportunity to discuss Missouri River issues with you and Dr. Westphal.

The Missouri basin states and Indian tribes are committed to the recovery of the basin's threatened and endangered species. However, we believe that recovery efforts may stall if the Service tries to impose a solution on the basin that cannot be implemented. We fully support the Service's mandate to protect and recover species in our basin and hope that our support was apparent to you at our meeting. Further, we encourage the Service to list in its Biological Opinion specific and detailed recovery objectives for each segment of the Missouri River system. However, we fear that overly specific flow recommendations that tell the Corps of Engineers how to manage the river instead of what it needs to accomplish will be disruptive and damaging to some of the authorized project purposes and could produce enough opposition to stalemate the entire recovery process. We urge you to adopt a flexible approach that utilizes adaptive management and provides opportunities to test various management scenarios.

We hope to be partners with the Service and the Corps in developing ways to achieve the recovery objectives the Service establishes in its Biological Opinion. The message we heard from you in Minneapolis is that the Missouri River's threatened and endangered species are in dire straits and that they do not have much time left. Our message to you is that an overly prescriptive approach to meet the goals that will be outlined in your draft Biological Opinion will likely preclude the cooperation needed to recover the species.

Thank you again for your concern for our basin, its resources, and its residents. We look forward to working with the Service to strengthen the basin's environmental and economic resources.

Sincerely,
Richard H. Opper, Executive Director
Missouri River Basin Association

Fish and Wildlife Service outlines its Biological Opinion

In early July the U.S. Fish and Wildlife Service sent the following letter to Brigadier General Carl A. Strock of the U.S. Army Corps of Engineers, highlighting the main points of its Draft Biological Opinion, which was to be presented to the Corps within the next few weeks.

Dear Gen Strock:

This letter is a result of our July 10 meeting in Washington, D.C. regarding the Missouri River Biological Opinion attended by Assistant Secretary Westphal and Director Clark. The following is a summary of the discussions related to the framework of conservation measures needed to avoid jeopardizing the continued existence of listed species on the Missouri River.

The Service will recommend in our Draft Biological Opinion a spring pulse starting point of 49.5 kcfs (+17.5 above full navigation service) during the first available water year and an annual summer low of 25 kcfs from Gavins Point Dam. As an interim step, a spring pulse of 49.5 kcfs during the first available water year and a summer low of 25 kcfs would be in effect each year, starting in 2001, until the new Master Manual in in place or other appropriate NEPA documentation. We would view this as an adaptive management step that, in conjunction with robust monitoring of the biological response, could help us refine a final set of recommendations for implementation. A robust monitoring program will be necessary to identify the desired beneficial biological responses to the listed species from these interim measures and to provide a basis for any adjustments than may be necessary. Corps representatives stated during the July 10 meeting that that the Corps has significant discretion regarding navigation and that there is flexibility in the 8 month navigation season. They also stated that the length of the navigation season was an "expectation" rather than a guarantee.

The Corps will provide spring pulse from Fort Peck Dam as discussed in our recent Portland meetings approximately one year out of three beginning in 2002. As a test of the spillway infrastructure, the Corps will perform a "mini-test" in 2001. The parameters of the test will be described by the Corps in your response to this letter and will incorporate the direction agreed to from recent discussions held in Portland.

The Service will identify acres of habitat (sandbar and shallow/slow water) necessary to avoid jeopardy in the biological opinion. We believe the Corps can use existing programs and the likely expanded mitigation program to result in the creation of at least one-third of these acres necessary in the lower river system. The rest will need to be restored through additional physical modification of existing river training structures and through hydrological modification. The Service believes that a majority of the habitat can be created through hydrological modification.

The monitoring needs relative to piping plovers and least terns are currently being adequately addressed by the existing Corps program. The short-term monitoring needs relative to the Fort Peck test for pallid sturgeon have been outlined in a letter sent to the Corps on April 7, 2000. The Corps is currently assisting the Service relative to these short-term needs below Fort Peck. There is a need for a comprehensive short-term monitoring response of pallids to the interim flows recommended from Gavins Point. The long-term needs for the pallid sturgeon monitoring throughout the system will be addressed in the Draft Biological Opinion.

The Service has outlined the short-term propagation needs (which could efficiently be fulfilled at Garrison Dam and Gavins Point National Fish Hatcheries) necessary to reach stocking objectives in a letter dated April 25, 2000. While the Corps has indicated that they may not have the authority to assist in meeting these needs at Service facilities, the Service believes that the Endangered Species Act would provide the basis for such authority. The Service has also sent a letter dated June 27, 2000 to the Corps outlining our concern that a new facility at Fort Peck Dam would not meet these short-term needs.

There is agreement in principle regarding using the adaptive management approach in implementing the actions and goals identified in the opinion. There is also agreement regarding the unbalanced intra-system regulation issues. The final discussion of these two topics will be outlined in the Draft Biological Opinion which is expected to be delivered to the Corps on or about July 31, 2000.

The Service needs to know by July 19, 2000, if you accept the six elements discussed in this letter as being reasonable and prudent. We also need to know if you want to revise the project description to incorporate these elements, or if you prefer to have them presented in the form of a RPA in a Draft Biological Opinion.

Sincerely,
Ralph Morgenweck, Regional Director
U.S. Fish and Wildlife Service

Corps of Engineers responds to Biological Opinion

In late July the following letter was sent from Brigadier General Carl A. Strock (Division Engineer with the U.S. Army Corps of Engineers) to Ralph Morgenweck (Regional Director, U.S. Fish and Wildlife Service). This letter was written in response to the previous letter printed in this issue of the Missouri River Report. That letter summarized the main points of the Draft Biological Opinion that the Fish and Wildlife Service planned to present to the Corps within the next few weeks.

Dear Mr. Morgenweck:

Thank you for your letter dated July 12, 2000, regarding the ongoing formal Section 7 Endangered Species Act (ESA) consultation on the current operation of the Missouri River Main Stem Reservoir System, the Bank Stabilization and Navigation Project, and the Kansas River Reservoir System. In that letter you documented seven conservation measures that you recommend to avoid jeopardizing the continued existence of the threatened piping plover and the endangered interior least tern and pallid sturgeon. Based on discussions with my staff, the following is a description of the actions that the Corps intends to take to address each of your recommendations:

1) Modified Intrasystem Regulation
We will include the recommended modified intrasystem regulation in our 2000-2001 draft Annual Operating Plan (AOP) that will be circulated for public comment in September. Public meetings will be held in October to further explain the proposed operation for next year and to take comments. We will consider all comments received prior to preparation and circulation of a final AOP in late December or early January. At the present time, our plan is to include the modified intrasystem regulation as part of the preferred water control plan alternative (PA) for the Revised Draft Environmental Impact Statement (EIS) for the Master Manual Review and Update.

2) Fort Peck Flow Enhancement
Currently, we are continuing to pursue a mini-test of the Fort Peck flow enhancement in 2001 and a full test in 2002, if conditions are suitable. The objective of both tests is to further assess impacts of the flow enhancement on spillway infrastructure and downstream river uses and resources. We also plan to monitor biological responses and evaluate monitoring parameters and protocols. The Fort Peck flow enhancement mini-test will also be included in the proposed 2000-2001 AOP, and we plan to complete National Environmental Policy Act (NEPA) documentation and public coordination concurrently with the public AOP process. NEPA documentation will also be required for the full test in 2002. Any permanent change to the Master Manual to include the Fort Peck flow enhancements will be pursued through the ongoing Master Manual Review and Update EIS process.

3) Adaptive Management
We agree that monitoring and assessment of measures implemented to preclude jeopardy and a long-term adaptive management approach is prudent. Our two agencies should continue close coordination as part of this adaptive management process. It is also prudent that stakeholders with interests in the operation of these projects be provided a standing forum to allow input on a continuing basis regarding proposed changes. Our two agencies should continue our dialog on the details of the adaptive management process, and include representative stakeholders in these discussions in the near future. We propose, at a minimum, to include representatives of the Missouri River Basin Association, the basin Tribes, the Missouri River Natural Resources Committee, and other Federal agencies in these discussions.

4) Endangered Species Monitoring Program:
Thank you for your supportive comments on our existing monitoring program for terns and plovers. Additionally, the Omaha and Kansas City Districts are developing both short- and long-term monitoring plans for the pallid sturgeon. These plans will include proposed monitoring parameters and protocols, costs, and strategies for incorporating pallid sturgeon monitoring into the Corps annual budgeting process.

5) Short-term Propagation Support for Pallid Sturgeon
The Corps will continue to explore opportunities to provide short-term propagation support.

6) Habitat Restoration/Creation
While we agree that the restoration and creation of tern and plover, and native river fish habitats may be essential elements to ensure the continued existence of Missouri River threatened and endangered species, we believe it is important to complete the scientific documentation establishing the relationship between project operations and habitat requirements before committing to specific actions. Within existing authorities, including the expanded Fish and Wildlife Mitigation Program for the Missouri River Bank Stabilization and Navigation Project, the Corps intends to pursue the development of the habitat needed to preclude jeopardy, as appropriate

7) Gavins Point Flow Enhancement
Our consultation to date has begun to identify some specific, measurable attributes that may assist you in completing the biological opinion. However, further analysis is required to determine whether the interim and long-term prescriptive Gavins Point flow changes that you have requested would attain the attributes you have identified as necessary to preclude jeopardy. We should allow further staff discussions to identify measures that will provide the attributes necessary to preclude jeopardy prior to any commitment to pursue flow enhancement modifications from Gavins Point. If Gavins Point flow enhancement changes are shown to be required, these changes will be addressed as part of the PA for the Master Manual Revised Draft EIS.

In our June 24, 2000, response to your Preliminary Internal Draft Biological Opinion, we forwarded over 100 specific comments including several significant issues affecting the ultimate outcome of this consultation. Many critical sections of the Biological Opinion had yet to be developed at that time. Our staffs subsequently met to clarify our comments and better identify specific, measurable attributes to avoid jeopardy. It is my understanding that you will address these comments in your final Draft Biological Opinion.

I have been impressed with the hard work and dedication of our respective staffs throughout this difficult and complex ESA consultation process. I hope we can build upon the relationship we have developed to date as we complete this important process.

Sincerely,
Carl A. Strock
Brigadier General, U.S. Army
Division Engineer

Questions and answers regarding the status of the basin's species

The following information was provided by the U.S. Fish and Wildlife Service.

What is a Section 7 Consultation?

Section 7 of the Endangered Species Act directs all federal agencies that permit, fund, or carry out activities to consult with the U.S. Fish and Wildlife Service (FWS) to ensure that their actions will not jeopardize the continued existence of any listed species.

In compliance with the Endangered Species Act, the FWS and the U.S. Army Corps of Engineers entered into a formal consultation process in April 2000 to address the effects of the operations of the Missouri River on three listed species: the endangered pallid sturgeon, the endangered least tern, and the threatened piping plover. The goal of the consultation is to determine whether current operation of the Missouri River Main Stem Reservoir System, the Bank Stabilization and Navigation Project, and the Kansas River Reservoir System poses jeopardy to the listed species. If so, the FWS will develop through consultation with the Corps reasonable and prudent alternatives that avoid jeopardy. The consultation will conclude with the FWS providing a biological opinion to the Corps regarding operations of these three projects.

What is the current status of the endangered species?

Piping plovers: This threatened species has been declining for the last 15 years.

Pallid sturgeon: The endangered pallid sturgeon population is in extreme danger of becoming extinct. While spawning may be occurring, there has only been one sighting of a single pallid fry in the last few decades and no evidence yet of surviving one-year-olds. Hatchery stocked fish produced from captured adult spawners have been provided to many of the reaches as an attempt to keep this species from edging closer to extinction.

Least terns: Overall population trends for least terns are positive. However, this positive trend is primarily due to increases in numbers of terns on the lower Mississippi River.

Have the Missouri River Basin Association (MRBA) recommendations been incorporated into the biological opinion?

The recommendations of the Missouri River Basin Association overlap many of the recommendations likely to be made in the biological opinion. The MRBA did not address flow modifications below Gavins Point Dam.

(*MRBA Editor's Note*: MRBA extensively addressed flow modifications below Gavins Point. However, MRBA ultimately chose not to recommend such flow adjustments for a variety of reasons, including their impacts to river users and hydropower revenues, to name a couple.)

What are the FWS recommendations?

- implementation of an adaptive management approach to the system;
- restoration of habitat — creation of shallow water areas, side channels, etc.,

- flow modifications from Fort Peck and Gavins Point dams;
- monitoring and assessment of threatened and endangered species;
- participation and assistance with pallid sturgeon propagation; and
- unbalancing of the upper three reservoirs.

What are the FWS recommendations concerning modified releases from Fort Peck dam?

Based on snow pack, the flows will range from 20,000 cfs to 30,000 cfs between mid-May and the end of June. Higher flows would be recommended during higher snow pack years. The recommendations to modify flows from Fort Peck are aimed at maximizing the amount of warm water habitat available below the dam. Warm water intentionally spilled over the spillway is expected to provide the biological cues to encourage the successful spawning of pallid sturgeon in this reach

What is the FWS recommendation concerning modified releases from Gavins Point Dam?

The FWS has proposed a spring rise of +17,500 cubic feet per second (total 49,500 cfs) one year out of three and an annual summer low of 21,000 cfs. As an interim step, the FWS proposed the triennial spring rise mentioned above in combination with an annual summer low of 25,000 cfs.

These releases will create a semblance of the natural fluctuations of the Missouri River. The rising water in the spring and the lowering of water in the summer will provide biological cues necessary for improved reproduction from species such as least terns, piping plovers, and pallid sturgeon.

The rising water washes nutrients into the river. These nutrients are the foundation of the web of life in the river. The declining water signals the birds that now is the time to nest to ensure the young are hatched with maximum habitat available. Declining water also continually increases water and upland edge habitat that creates feeding zones for shorebirds as they grow throughout the summer. Low flows also create shallow water habitat essential to fish species in the river.

The FWS believes modifications below Gavins Point are critical for survival and recovery of the listed species. The recommended releases from Gavins Point Dam would not be in effect in the extreme high or low water years.

How will flow modifications benefit the species?

Pallid sturgeon: Present operation of the Missouri River alters the spawning signals necessary for reproduction. It also limits and fragments remaining habitat and reduces water temperature in specific reaches below dams.

Enhanced spring flows and temperatures from Fort Peck are needed to provide conditions and cues for pallid sturgeon spawning in this reach of the Missouri River.

We expect the flow modifications below Gavins Point to also benefit pallid sturgeon by increasing invertebrate production, which drives the food chain for bottom-dwelling fish.

The lower summer flows are expected to benefit pallid sturgeon in the lower 800 miles of the Missouri by providing slower and shallower water to allow young-of-year fish to grow large enough to survive through the first winter. The survival through the larval stage for pallid sturgeon below Gavins Point is thought to be limited due to the excessive steady flows throughout the summer months. Fisheries experts from within the Missouri River basin are virtually unanimous in the opinion that the shortage of slower, shallow water habitat is a major limiting factor for juvenile pallid sturgeon as well as many other species of fish.

Larval and fingerling pallids need to remain in shallow water areas containing high concentrations of food organisms. Under present conditions, the Missouri River is simply too swift and deep throughout much of the lower basin to provide the shallow and slack water habitat where young fish can rest, feed, and grow until they reach a life stage where they are capable of negotiating main channel currents.

Least terns and piping plovers: These small shorebirds nest on sparsely vegetated sandbars. Higher spring flows scour channels and move gravel downstream creating sandbars that provide resting and nesting habitat for terns and plovers. Higher flows during nest initiation period force birds to nest on the highest sandbars.

Lower summer flows will keep tern and plover nests above water and prevent hatchlings from being washed downstream. It will also allow the birds access to small fish. Open areas with little vegetation also reduce the chances of predation.

What happens next?

During this consultation, the two agencies will work together to explore ways to protect the listed species while remaining consistent with the Corps' responsibilities to manage the dams and reservoirs on the Missouri River.

A final opinion is expected to be available sometime in September.

Missouri River
Basin Association

Home page: http://www.mrba-missouri-river.com
E-mail: rhoper@wtp.net
P O Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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Treasurer: Roger Patterson, Director, Nebraska Department of Natural Resources

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Steve Mahfood, Director, Missouri Department of Natural Resources
Bud Clinch, Director, Montana DNRC
David Pope, Chief Engineer, Kansas Division of Water Resources
Garland Erbele, Secretary, South Dakota Department of Natural Resources

MRBA STAFF:
Richard H. Opper, Executive Director
Susan Risland, Associate Editor – Newsletter

FEDERAL REPRESENTATIVES:
Larry Cieslik, Corps of Engineers
Rose Hargrave, Master Manual Project Manager
Mike Olson, U.S. Fish and Wildlife Service
Ayn Schmit, U.S. Environmental Protection Agency
Larry Shepard, U.S. Environmental Protection Agency
Dale Blevins, U.S. Geological Survey
Bill Mauck, U.S. Geological Survey-BRD
Nick Stas, Western Area Power Administration
Jim Wedeward, Bureau of Reclamation
Keith Beartusk, Bureau of Indian Affairs

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The Missouri River Report

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MISSOURI RIVER BASIN ASSOCIATION

P O BOX 301, LEWISTOWN, MONTANA 59457-0301 PHONE (406) 538-4469

APRIL 2001

Short navigation season possible

Drought likely in upper basin this summer

By Susan Risland

Lack of snow this winter and reservoir depletions from last summer have left the Missouri River system with less water than normal, which might lead to minimum service for navigation and possibly a shorter navigation season

In March the U S Army Corps of Engineers reported that this year's navigation season would open on the normal dates (*see related story*) but at a reduced service level due to low water in the reservoirs

To conserve water, the Corps planned to begin the season by holding the river at 3,000 cfs less than full service.

If runoff drops to 19 5 MAF as expected (which would be 78 percent of the normal 25 2 MAF), the level of the river would be further reduced on July 1 to provide minimum service for navigation. Minimum service flows are 6,000 cfs less than full service flows

If the big reservoirs along the Missouri hold less than 52 MAF of water on July 1, the commercial navigation season will be shortened by 14 to 25 days this fall to help restore the system to its normal levels

During last year's drought, those reservoirs were depleted 800,000 acre-feet more than required in the published guidelines for the Master Manual The Corps released that water primarily to protect endangered species

With mountain snowpack in the upper basin at nearly 40 percent less than normal, this year's runoff is expected to be below average

The outlook has improved slightly in recent weeks, however, due to additional snowfall in the mountains, but snowpack in the mountains usually peaks in April

"We are still concerned about the lack of accumulation of mountain snow," said Larry Cieslik, chief of the Corps' Missouri River Basin Water Management Division in Omaha

"As of April 2, the snowpack is only 62 percent of normal in the reach above Fort Peck and 61 percent in the reach from Fort Peck to Garrison."

The six powerplants on the main stem of the Missouri generated 433 million kilowatt hours (kWh) of electricity in March, which is 62 percent of normal The Corps reported that energy production is expected to be 7 7 billion kWh this year, compared to the annual average of 10 2 billion kWh

At the end of March the Missouri River system held 51 9 MAF of water, compared to 57 4 MAF at that time last year

Releases from Gavins Point Dam averaged 15,300 cfs in March In most years they average 21,200 in that month

The pool elevation of lakes during April, measured in mean sea level (msl), is expected to be about

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Reservoir	MSL	% of average
Lewis & Clark Lake (Gavins Point Dam)	1206 feet	98
Lake Francis Case (Fort Randall Dam)	1358 feet	99
Lake Sharpe (Big Bend Dam)	1421 feet	101
Lake Oahe (Oahe Dam)	1602 feet	91
Lake Sakakawea (Garrison Dam)	1830 feet	90
Fort Peck Lake (Fort Peck Dam)	2223 feet	85

Pool levels are expected to average about 90 percent of normal by the end of April, but lack of snowmelt followed by low precipitation during the spring and summer could drop the reservoir levels enough by July to force the Corps to release less water for navigation and other uses

FOR CURRENT CONDITIONS AND OTHER INFORMATION

U.S. Army Corps of Engineers, Missouri River Region
Civil Works – Water Management Information
http://www.nwd-mr.usace.army.mil/rec/index.html

U.S. Department of Agriculture Drought Aid
http://www.fsa.usda.gov

NOAA Climate Prediction Center
U.S. Drought Monitor
(includes numerous links)
http://www.cpc.ncep.noaa.gov/index.htm

Montana Drought Monitoring 2001
http://nris.state.mt.us/drought

Navigation season opening and closing dates

In years when the Missouri River basin experiences normal precipitation, the U.S. Army Corps of Engineers releases enough water from the main stem dams to float barges and other vessels in the river's lower reaches for eight months.

During this season, the Corps supports the navigation industry by holding or releasing water at the dams to keep the river at specific depths as it flows past certain cities. Minimum service is the least amount of water required to float most barges and similar vessels. These "flow targets" are as follows:

Navigation Flow Targets in cfs

Location	*Full Service*	*Minimum Service*
Sioux City, IA	31,000	25,000
Omaha, NE	31,000	25,000
Nebraska City, NE	37,000	31,000
Kansas City, MO	41,000	35,000

During a year of normal precipitation, the navigation season opens and closes on the following dates:

Normal Navigation Season

Location	*Opening Date*	*Closing Date*
Sioux City, IA	March 23	November 22
Omaha, NE	March 25	November 24
Nebraska City, NE	March 26	November 25
Kansas City, MO	March 28	November 27
River mouth, St. Louis	April 1	December 1

When there is more than average precipitation, the Corps releases more water from the dams. This leaves room in the reservoirs to store excessive spring and summer rain, which helps prevent flooding downstream. It also extends the navigation season as follows:

Extended Navigation Season

Location	*Closing Dates*
Sioux City, IA	2 December
Omaha, NE	4 December
Nebraska City, NE	5 December
Kansas City, MO	7 December
River mouth, St. Louis	11 December

FWS releases its final biological opinion

By Susan Risland

In a final biological opinion released in November, the U S Fish and Wildlife Service (FWS) continued to recommend a spring rise on the Missouri River and a period of low water during the summer to prevent three species of birds and fish from becoming extinct

The 296-page scientific document was prepared by the FWS in a formal consultation with the U S Army Corps of Engineers

The study was undertaken to fulfill requirements of Section 7 of the Endangered Species Act, which mandates that endangered species must be protected

In addition to a spring rise and summer drawdown, the biological opinion also recommended substantially more habitat for fish and wildlife, adaptive management, unbalanced intrasystem regulation, and propagation of pallid sturgeon The FWS said that the three species would probably remain in jeopardy unless all elements of the plan are adopted

Some of the proposals in the biological opinion have generated controversy over the past few months because they have the potential to shorten the navigation season, increase the risk of floods, and increase the price of hydropower

The FWS contended that unless the Missouri is managed in a more natural way, the region's fish and wildlife populations will continue to decline

"Current river operations on the Missouri and Kansas rivers, as well as the continued maintenance of the Bank Stabilization and Navigation Project, are expected to perpetuate habitat loss, nest failure, reduction in forage base, reduction of spawning cues, and overall reductions in reproductive success of these species," warns the executive summary of the biological opinion.

The document states that current water management policies jeopardize the continued existence of three species the least tern, the piping plover, and the pallid sturgeon (Bald eagles are also on the national list of threatened and endangered species, but their population is relatively high in the Missouri basin)

The biological opinion says that, because humans have severely altered the natural state of the river and its floodplain, other native species are apt to decline and become threatened or endangered unless the management of the system is altered significantly

"This alternative is designed to return some semblance of practical 'form and function' of a river system to appropriate sections of the Missouri and Kansas rivers," says the executive summary

The first proposal, a spring rise, ("flow enhancement") is intended to mimic more natural flow patterns on the Missouri.

Biologists believe that various types of native fish depend on this period of high water as a cue to spawn. Of particular concern is the pallid sturgeon, a species that is perilously near extinction because it seems to have all but stopped reproducing in recent decades

Unfortunately, it is not yet clear how large a spring rise the fish would require, how long it would need to last, or how often it would need to occur

During such a period of high water, the river also builds sandbars, which provide habitat for birds and fish

In addition, the water would improve habitat, where habitat is available, by flowing into the old side channels and backwaters beside the main channel Fish typically feed and grow to maturity in these areas of quiet, shallow water

As outlined in the biological opinion, the spring rise would occur on average every third year below Gavins Point Dam on the Nebraska-South Dakota border, beginning in 2003, and would bring the river an additional 17,500 cfs above the level now required for full navigation support, for a total of 49,500 cfs

The river would be kept at that level for two weeks Since it takes about a week to raise the river and another week to lower it, the spring rise would occur over a total of about four weeks in late May and early June

The spring rise would not be undertaken in years when there was much danger of drought or floods in the basin

This is not the first time a federal agency has proposed a spring rise for the Missouri River In 1994, after intensive review of its water management policies, the U S Army Corps of Engineers

suggested raising the river 20,000 cfs above the full navigation level and keeping it there for 10 weeks each year

Then, as now, the idea met with disapproval from those opposed to changing the flow of the lower river

Among other problems, the spring rise would shorten the navigation season, because it would require a release of water that would flow down the river in early summer instead of being held in the reservoirs to support navigation later in the year

The high water might also flood some lowlands next to the river, but according to the FWS, the spring rise would not exceed the level that the river is already reaching in some years

The Corps planned a small spring rise at Fort Peck Dam in Montana this year, but that mini-test was postponed because inadequate snowpack in the northern Rockies has left the river and reservoirs running low this spring

The FWS biological opinion calls for a spring rise below Fort Peck Dam in 2001, 2002, and 2003, and once every three years thereafter

The document also proposes investigating the possibility of a spring rise below Garrison Dam, to be implemented in 2005

The second proposal, a summer drawdown, (also called "flow enhancement") would improve habitat by exposing sandbars where birds could nest

Piping plovers and least terns have declined dramatically in past decades because they lack safe places to lay their eggs High flows during the summer wash young terns and plovers out of their nests on sandbars

In addition, the drawdown is intended to provide slower, shallower water that would give young fish the habitat they need The main channel of the Missouri now flows so fast and deep that it washes many young fish downstream, along with the food they need

A drawdown would affect the navigation industry significantly, however, since a certain depth of water is necessary to float vessels

Depending on factors such as sedimentation and water flowing in from tributary streams, parts of the lower Missouri might not be deep enough for navigation during some weeks in summer if the river were drawn down to benefit fish and wildlife

The final version of the biological opinion, released in November, called for lowering the flow below Gavins Point Dam to 25,000 cfs by June 21 and keeping it there until July 15, then stepping it down to 21,000 cfs until August 15, and finally raising the river back up to 25,000 cfs until September 1

The third proposal, a substantial increase in acres of habitat, would involve restoring, creating, and acquiring shallow water and sandbars, including beaches and islands

The FWS recommended a goal of 20 to 30 acres of shallow water per mile of river This water would be no more than five feet deep and would move at no more than 2 5 feet per second

For sandbars the FWS recommended variable goals of 25 to 50 acres per mile below Garrison Dam, 10 to 20 acres per mile below Fort Randall Dam, 40 to 80 acres per mile along Lewis & Clark Lake, and 40 to 80 acres per mile below Gavins Point Dam

Some of this habitat would be artificially or mechanically created Some would be restored in areas where natural sandbars and shallows used to exist

The fourth proposal, adaptive management and monitoring, would incorporate more flexibility into the way the river system is operated Water management would be tailored to changing conditions and the availability of any new information that might arise

This proposal calls for establishing an interagency coordination team this spring to help various organizations work together more efficiently

In addition, a monitoring program would be developed within one year to show precisely the condition of the river now and to reveal how the ecosystem reacts to any management changes

Third, the FWS suggested publishing an annual report on the state of the ecosystem

The fifth proposal, ubalanced system regulation, would involve a three-year rotation among the upper three reservoirs in Montana, North Dakota, and South Dakota

Each year, one reservoir would be drawn down, one would be held at an average level, and the third would be filled to more than its average level

This fluctuation in lake levels would help fish spawn, increase the amount of forage, and create more sandbars for terns and plovers along the reservoirs and in the river below the dams

The sixth proposal, propagation and augmentation, calls for the Corps and the FWS to capture pallid sturgeon and breed them in captivity, then release the young fish into the river.

The goal would be to produce 4,700 fish up to one year old by the year 2003. This short-term measure would help the species survive until conditions along the river can be altered enough to allow the pallid sturgeon to reproduce more successfully on its own.

In response to the publication of the FWS biological opinion, the Corps of Engineers published a draft implementation plan, which outlines ways that the Corps intends to address the ecological concerns detailed in the FWS document.

Some of the recommendations in the biological opinion had already been incorporated into the Corps' plan to revise the Master Water Control Manual (also called the Master Manual), which dictates how the river system is to be managed.

That document was written four decades ago and has been under intense scrutiny since the early 1990s, when the Corps began conducting studies and soliciting public comment on ways the manual might be improved.

All of the recommendations in the FWS biological opinion have been considered in depth during the past few years as the Missouri River Basin Association, various organizations, and the citizens of the basin have discussed the Master Manual and how to improve conditions along the Missouri.

After weighing numerous factors — including the environment, the region's economy, and the will of the people — MRBA compiled its own list of recommendations and submitted them to the Corps in late 1999.

Like the FWS biological opinion, the MRBA recommendations called for creating, restoring, and acquiring habitat, monitoring conditions along the river, unbalancing the upper three reservoirs, and using adaptive management.

MRBA did not recommend a spring rise or a summer drawdown, however, because such fluctuations in the river might create economic difficulties for the people of the basin. MRBA did recommend experimenting with a small spring rise below Fort Peck Dam in Montana.

MRBA contends that a basin-wide monitoring system and a recovery committee for endangered species should be established before the management of the river system is changed in any substantial way.

To read the entire text *of the FWS Biological Opinion and the Corps' Draft Implementation Plan, and to find information on many other topics related to the Missouri River Basin,* visit the home page of the **U.S. Army Corps of Engineers Northwestern Division**

http //www.nwd.usace.army.mil

Comments on the Biological Opinion and the Corps' Draft Implementation Plan can be e-mailed to:

Mastermanual@usace.army.mil

For a free copy *of the Biological Opinion on a compact disc, or to send comments via U.S. Mail,* write to:

Project Manager
Missouri River Master Manual Study
Northwestern Division
U.S. Army Corps of Engineers
12565 West Center Road
Omaha, NE 68144

For information from the

U.S. Fish and Wildlife Service, visit the agency's Mountain-Prairie Region 6 home page

http://www.r6.fws.gov

MRBA renews commitment to November 1999 basin plan

In its February meeting the board of directors of the Missouri River Basin Association decided to continue to advocate the recommendations that the organization submitted to the U.S Army Corps of Engineers in November 1999.

The recommendations were compiled after several years of discussions with the basin's residents, government agencies, and various other interest groups.

The recommendations outline numerous ways that the management of the river system might be improved.

MRBA had compiled the suggestions at the request of the U.S. Army Corps of Engineers, which oversees the operation of the dams on the Missouri River.

The project represented an unusual cooperative effort that generated goodwill among people who have often found themselves at odds in the past.

In light of the biological opinion recently published by the U.S Fish and Wildlife Service, MRBA considered revising its recommendations but ultimately decided against making any changes.

The biological opinion warns that some of the region's fish and wildlife are in danger of extinction unless certain measures are taken. It differs from the MRBA recommendations in its call for flow changes in the lower river.

"We still think our proposals are reasonable, and they will take us a long way toward recovery. It's an appropriate starting point," said Richard Opper, Executive Director of MRBA.

"It also didn't make sense to us to revise our recommendations before consulting with the people throughout the basin who helped us develop them."

Among other things, the MRBA proposal called for additional water conservation during droughts, and a diligent effort to ensure the recovery of threatened and endangered species.

To help those species, the recommendations included

- implementing a recovery committee,
- acquiring and enhancing a large amount of habitat throughout the basin,
- experimenting with a spring rise in the 200-mile-long stretch of river below Fort Peck and Sakakawea reservoirs, and
- implementing a monitoring program.

Missouri River Natural Resources Conference slated for late June

The Missouri River Natural Resources Conference is scheduled for June 24-27, 2001, at the Best Western Heritage Inn, Great Falls, Montana. The annual conference, open to all residents of the basin, will be hosted this year by the Montana Department of Fish, Wildlife and Parks. The conference is an opportunity for people to learn about the river's environmental condition and share points of view on river management.

Topics will include water allocation, water quality, flood plain management, conservation strategies, current topics, and river research and monitoring. Daniel Kemmis, Director of the Center for the Rocky Mountain West at the University of Montana, will deliver the keynote address, *Watershed Democracy: An Idea Whose Time Has Come.*

Among the special events planned for families, the Montana Tribal Tourism Alliance will conduct a Native American Cultural Fair at one of the largest buffalo jumps in the world. An opening social at the C.M. Russell Museum will include a performance by a nationally renowned Blackfeet Indian singer, songwriter, and storyteller. Luncheon speakers will include Jack Horner, Curator of Paleontology at the Museum of the Rockies, and Charles Groat, Director of the U.S. Geological Survey.

Great Falls is located near numerous dams and power plants, the Upper Missouri National Wild and Scenic River, Gates of the Mountains, and Glacier National Park.

The conference is sponsored by American Rivers, the Blackfeet Tribe, the Bureau of Land Management, the Chippewa Cree Tribe, the Fort Belknap Indian Community, the Fort Peck Tribes, the Lewis and Clark Trail Heritage Foundation, the Missouri River Basin Association, the Missouri River Citizens, the Missouri River Natural Resources Committee, the Montana Department of Environmental Quality, the Montana Department of Fish, Wildlife, and Parks, PPL-Montana, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, and the Western Area Power Administration.

For information and to register, visit the conference's Internet site at

infolink.cr.usgs.gov/events/01.htm

or contact Chris Hunter, Conference Chairman, Montana Department of Fish, Wildlife and Parks, 406-444-2449, chunter@state.mt.us or Jeanne Heuser, U.S. Geological Survey, 573-876-1876, jeanne_Heuser@usgs.gov.

Recovery committee to be discussed in Sioux Falls

MRBA conference to address endangered species

The Missouri River Basin Association will sponsor its fourth basinwide meeting from May 31 through June 1 at the Sheraton Sioux Falls Hotel in Sioux Falls, South Dakota

The meeting will feature updates on events that have taken place in the basin this year, including presentations by federal agencies working to ensure the well-being of the region's threatened and endangered species

The U S Fish and Wildlife Service will summarize its recently published biological opinion, which analyzes ways that fish and wildlife are affected by the present operation of the river system In addition, the U S Army Corps of Engineers will explain its Draft Implementation Plan, which proposes measures to accommodate recommendations set forth in the biological opinion

The conference will focus on the development of a recovery committee that will spearhead efforts to save the area's threatened and endangered species This committee will allow representatives of river users and other interests to participate in decisions that would otherwise be made without them

Guest speakers will describe how recovery committees have functioned in other river basins, and conference participants will meet in small groups to discuss how a recovery committee should operate in the Missouri watershed

Previous MRBA conferences have addressed ways to save water during droughts by adjusting releases from the basin's reservoirs In addition, information from those meetings helped MRBA identify measures that would be most apt to help the basin's threatened and endangered species recover To that end, the organization continues to support

- experimenting with a controlled spring rise below Fort Peck Dam in Montana,
- acquiring and enhancing a great deal more habitat throughout the basin,
- implementing a basinwide monitoring program, and
- forming a recovery committee

The River Group, a team of facilitators, is once again helping MRBA design this conference and will moderate the small group sessions

For more information about the conference, contact

Richard Opper
Executive Director of MRBA
P O Box 301
Lewistown, Montana 59457-0301
Telephone (406) 538-4469
E-mail rhoper@wtp net

Recreational Information

For recreational information and reports from the **U.S. Fish and Wildlife Service**, visit

http //www census gov/prod/www/abs/fishing html

For the latest information on recreational facilities and boat ramps at Corps sites, call a project office of the **U.S. Army Corps of Engineers**

Lewis and Clark Lake (402) 667-7873
Lake Francis Case (605) 487-7845
Lake Sharpe (605) 245-2255
Lake Oahe (605) 224-5862
Lake Sakakawea (701) 654-7411
Fort Peck Lake (406) 526-3411

MRBA pushes for monitoring program in 2001

The Missouri River Basin Association is advocating various proposals before the U S Congress, including the establishment of a monitoring program that would generate scientific data about the Missouri River and the fish and wildlife that live there This data would profile the present condition of the river and would track the effects of any changes in the way the river is managed

"Our top priority this year is to try to get a basinwide biological monitoring program authorized," said Richard Opper, Executive Director of MRBA

"It makes no sense whatsoever to take steps to recover the species in the basin if we lack the ability to monitor the effectiveness of those activities We don't wish to waste money or water or other resources that don't take us toward the goal of recovery Trying to recover the species without a monitoring program in place is a ready, fire, aim approach "

To encourage Congress to approve the monitoring program, MRBA has drafted a bill called "The Lewis and Clark Voyage of Scientific Discovery " The document calls for Congress to recognize that the basin's ecosystem has changed significantly since Lewis and Clark made their famous "Voyage of Discovery" to explore the Missouri River from 1804 to 1806, and several native species are now on the verge of extinction Hydrologic and biological data would reduce the cost and increase the effectiveness of efforts to improve the ecosystem without harming the region's economy

To fund the program, the bill includes a federal appropriation of $6 5 million for 2002, $8 5 million for 2003, and $15 1 million for each of fiscal years 2004 through 2016

The monitoring program would be in place within two years after its approval by Congress It would be developed by the U S Department of Interior, in consultation with state governors (acting through MRBA and the Missouri River Natural Resources Committee), the basin's Indian tribes, and several federal agencies

The entire text of the bill follows

107th CONGRESS, 1st SESSION. A BILL

To honor the bicentennial of Lewis and Clark's "Voyage of Discovery" on the Missouri River

Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled.

SECTION 1. SHORT TITLE: This title may be cited as the "The Lewis and Clark Voyage of Scientific Discovery."

SECTION 2. FINDINGS AND PURPOSES.

Congress finds that—

- Lewis and Clark were pioneering naturalists and adventurers who completed one of America's most notable explorations by traveling up the Missouri River and across the Continental Divide to the Pacific Ocean and back in 1804-1806,
- The Missouri River ecosystem has changed significantly in the last 50 years, and several native species have been found to be threatened or endangered
- The Missouri River is the largest river system in the country without a comprehensive hydrologic and biological monitoring program in operation
- Hydrologic and biological monitoring can help shape efforts and reduce expenditures designed to restore a healthy ecosystem in the Missouri while preserving economic uses of the river

The purpose of this Act is to monitor the health of the Missouri River and measure biological, chemical, and physical responses to changes in river management

SECTION 3. DEFINITIONS.

The term "Missouri River" means the Missouri River and the adjacent floodplain that extends from the mouth of the Missouri River (RM 0) to the confluence of the Jefferson, Madison, and Gallatin Rivers (RM 2341) in the State of Montana

SECTION 4. LONG-TERM MONITORING PROGRAM.

ESTABLISHMENT —The Secretary of the Interior, in consultation with the Director of the United States Geological Survey, shall establish a program at the River Studies Center of the Biological Resources Division of the United States Geological Survey, located in Columbia, Missouri, to determine and monitor the biological and chemical characteristics of the Missouri River and their interrelationship with hydrology and geomorphology

PROGRAM —Not later than 2 years after the date of enactment of this Act, the Secretary of the Interior shall develop a program to monitor and assess the biota, including threatened and endangered species, habitats, and water quality of the Missouri River, in consultation with—

- the Governors of affected States, acting through—
- the Missouri River Natural Resources Committee; and
- the Missouri River Basin Association
- the Secretary of the Army;
- the Missouri River Basin Tribes;
- the Administrator of the Environmental Protection Agency;
- the Secretary of Agriculture; and
- the Western Area Power Administration

ACTIVITIES —The program under subsection (b) shall provide scientific information to—

(1) guide operation and management of the Missouri River; and

(2) measure and model the impact of management alternatives through—

- monitoring of biota, including threatened and endangered species, habitats, and water quality;
- focused identification of cause and effect relationships; and
- identification and evaluation of methods to conserve fish and wildlife

BASELINE —The program under subsection (b) shall establish a baseline of condition against which future activities can be measured

DATABASE —The Secretary of the Interior shall—

- establish a database on Missouri River biota, including threatened and endangered species, habitats, and water quality; and
- make the database readily available to the public.

REPORT —Not later than 3 years after the date of establishment of the program under subsection (b), and not less frequently than every 3 years thereafter, the Secretary of the Interior shall—

- review the program;
- as necessary, establish and revise the objectives of the program; and
- submit to Congress a report on the environmental health of the Missouri River.

AUTHORIZATION OF APPROPRIATIONS —

- There are authorized to be appropriated to the Secretary of the Interior to carry out this section—
  $6,500,000 for fiscal year 2002;
  $8,500,000 for fiscal year 2003; and
  $15,100,000 for each of fiscal years 2004 through 2016
- Of the funds authorized to be appropriated in fiscal years 2002 through 2016, $1.5 million shall be allocated annually to monitor and conduct focused investigations of endangered and threatened fish, including pallid sturgeon
- Funds authorized to be appropriated under this section shall be made available as necessary to collect field data and support field operations for the monitoring component of the program.

Missouri River
Basin Association

Home page http://www mrba-missouri-river com
E-mail rhoper@wtp net
P O Box 301
Lewistown, MT 59457-0301
Phone (406) 538-4469
Fax (406) 538-4369

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Garland Erbele, Secretary, South Dakota Department of Natural Resources

MRBA STAFF:
Richard H Opper, Executive Director
Susan Risland, Associate Editor – Newsletter

FEDERAL REPRESENTATIVES:
Larry Cieslik, Corps of Engineers
Rose Hargrave, Master Manual Project Manager
Mike Olson, U S Fish and Wildlife Service
Ayn Schmit, U S Environmental Protection Agency
Larry Shepard, U S Environmental Protection Agency
Dale Blevins, U S Geological Survey
Bill Mauck, U S Geological Survey-BRD
Nick Stas, Western Area Power Administration
Jim Wedeward, Bureau of Reclamation
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